

# Master's Paper Abstracts

## Summer 2018 - Spring 2019

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### Summer 2018

**Rosa E. Goetz. A Profile of Scholarly Communications Innovations: Looking at the Faculty Profile System and its Role in the Changing World of Scholarly Communications. A Master's Paper for the M.S. in L.S degree. April, 2018. 71 pages. Advisor: Stephanie W. Haas**

In her 1997 article 'Scholarly Communication—Historical Developments and New Possibilities', Nancy Fjällbrant noted that "we are on the greatest change in scholarly communication and knowledge transfer the world has ever seen". 20 years later, the world of scholarly communications is still in a period of rapid change. I focused on one scholarly communication tool, the scholarly profile system, and examined first the theoretical possibility of this tool to replace scholarly journals (through the lens of Bijker and Pinch's social construction of technology) and then I interviewed users to examine uses, trends and issues with the scholarly profile system. I ultimately concluded that although the system is functional in the current climate of scholarly communications, it will have to answer questions about access, use and outcomes in order to continue meeting the needs of scholars and researchers.

**Melissa K Hofman. Moving Towards a Social-Health Information Exchange: Analyzing the Health IT Systems Necessary for Holistic Healthcare. A Master's Paper for the M.S. in I.S degree. July, 2018. 62 pages. Advisor: Amelia Gibson**

Health information technology has the potential to transform the healthcare industry with a robust health information exchange. This paper examines what data is to be recorded and shared, with whom is the data to be shared, who is to have access to the data, who gets to decide all of this? Recent studies suggest that the recent deluge of big data require interdisciplinary efforts moving forward. Analysis of semi-structured interviews with a variety of stakeholders throughout the industry revealed frustration with the current systems and optimism about the future. Results revealed that all parties are willing and eager to be a part of the growing conversation, though the majority do not feel included. All participants favorably discussed the potential for health IT to positively influence healthcare if certain considerations are taken into account. Primary

barriers to implementation, privacy, financial, data collection, and stakeholder buy-in, were consistent with previous research.

**Jasmine N Plott. Pursuing Pro Se Litigants in North Carolina: How They Access Legal Information and How Libraries Can Do More. A Master's Paper for the M.S. in L.S degree. July, 2018. 68 pages. Advisor: Nick Sexton.**

Individuals who are representing themselves in a legal matter, known as pro se litigants, are increasingly common. Several of these individuals have no experience with the legal system, and having easily accessible areas where these individuals can conduct this legal research and access the resources they need is crucial. However, since the closing of the county courthouse libraries, North Carolina is unique in that it is a state that has no public law libraries, which are designed to solely serve the needs of the public. While there are public libraries and academic law libraries that the public can access, neither of these institutions are equipped to help pro se patrons in the way that a public law library would. This study explores how North Carolina is currently meeting the needs of pro se patrons and identifies gaps in service to these patrons generally and how they can be better met.

**Caroline E. Wagner. "One record to bind them all" 1: A Collection Analysis of the Chapel Hill Public Library's Adult and Young Adult Graphic Novel Collections. A Master's Paper for the M.S. in L.S degree. August, 2018. 64 pages. Advisor: Brian Sturm.**

For library professionals, the responsibility to facilitate access to information resources includes developing cataloging, labeling, and shelving practices and adapting them to fit new formats added to the collection. As the graphic novel format grows in popularity in public library collections, academic and professional conversations have emerged around the issues of how to catalog, label, and shelve these works.

The Chapel Hill Public Library is interested in supplementing its adult and young adult graphic novel collections and establishing an updated, consistent practice for the cataloging, labeling, and shelf classification of these works. In order to assess the current state of these collections and practices, a list-checking study and a direct collection

analysis utilizing shelf lists were conducted. These analyses identified collection gaps, inconsistencies in practice, and major decision points to be addressed in the next stages of the graphic novel project.

## Winter 2018

**Meredith H. Campbell. Accessibility of Archives' Digital Resources for Users with Hearing and Visual Impairments. A Master's Paper for the M.S. in L.S degree. November, 2018. 80 pages. Advisor: Denise Anthony**

Advances in technology and the increasingly widespread use of the Internet have led archives to publish information for researchers and digital collections on their websites. While this increases the number of people who can access their materials, it does not mean that their online resources are accessible to those with hearing and visual impairments. Many studies have been conducted on the accessibility of library websites, but the archival field has been lagging in this area. This paper examines the extent to which the digital resources that archives publish online comply with Amended Section 508 of the Rehabilitation Act of 1973 and W3C's Web Content Accessibility Guidelines 2.1. An analysis of archives websites in the United States using the WAVE tool and survey responses from members of the Society of American Archivists convey that electronic resources provided by archives are only partially accessible for users with hearing and visual impairments.

**Natalie G. Castellano. Usability Heuristic Violations, Provider Burden, and Performance During Interactions with Electronic Health Records. A Master's Paper for the M.S. in I.S degree. November, 2018. 78 pages. Advisor: Lukasz Mazur**

Electronic health records (EHRs) are widely used, but their suboptimal usability can pose risks for patient safety. This study uses data collected in a simulated environment in which providers interacted with 'current' and 'enhanced' Epic EHR interfaces to manage patients' test results and missed appointments. Interactions were quantified and categorized by high or low burden in terms of displayed behavioral and physiological data. Using recorded video data, the interface was inspected for violations of usability heuristics, and providers' workflow and performance was recorded. Overall, 22 heuristic violations were identified from 19 issues across all screens. Suboptimal performance was found to be associated with high burden level as well as the current EHR design. Findings can be incorporated into future design of EHRs in order to reduce providers' burden.

**Molly K. Cieri. Encouraging and Measuring the Success of Social Media in Archives, Special Collections, and Cultural Institutions. A Master's paper for the M.S. in L.S. degree. November, 2018. 55 pages. Advisor: Denise Anthony**

Web 2.0 technology in archive and special collections is more popular than ever. Existing literature on the concept of social media use in archives and other cultural institutions remains adamant that a good return on investment (ROI) is the result of diligent planning and habitual evaluation of social media platforms. The purpose of this research paper is to determine through five interviews around the state of North Carolina if there is any room for deviation from this calculated plan. The results were that while there was some divergence in the methods from existing literature, it was not significant enough to disprove it as the only sure method.

**Sangeeta Desai. New Recordkeeping on the Block: An Assessment of 2 Blockchain-Based Recordkeeping Systems. A Master's Paper for the M.S. in I.S degree. December 2018. 90 pages. Advisor: Helen R. Tibbo**

This study explores the application of blockchain technology to recordkeeping practices. To that end, two blockchain-based recordkeeping platforms—ARCHANGEL and RecordsKeeper—were evaluated according to the three criteria outlined in T. D. Smith's evaluation framework for blockchain-based recordkeeping platforms—dependability, security, and trust.

The results of these two evaluations demonstrate blockchain technology's inability to provide viable long-term solutions for sustainable records management as yet. This study also suggests supplementing Smith's framework with more blockchain-specific questions to ensure a more comprehensive evaluation of the use of blockchain in such platforms. Finally, this study recommends adding a fourth criteria, sustainability, to the framework.

**Yuhe Ding. Post-click Conversion Rate Predictive Model on E-commerce Recommender System. A Master's Paper for the M.S. in I.S. degree. December, 2018. 50 pages. Advisor: Ryan Shaw**

This paper discusses about how different features influence customers' decision on their online purchase after click behavior. The dataset is gathered from real-world traffic log of the recommender system in e-commerce. Logistic Regression and Extreme Gradient Boosting are used as main machine learning approaches for predictive analysis and modeling. In this study, features from users' profile, shops' profile and context are tested to see to what

extent they may exert influence on customers' purchase intention. Based on the experiment results, this paper also proposes some possible improvement for ecommerce platform in personalized recommendation in order to increase conversions and discusses about potential approaches to improve conversion rate prediction performance.

**Haley Ferreira. Their Stories Matter: Examining the Representation of Black Females in the EL Education Third Grade Curriculum. A Master's paper for the M.S. in L.S. degree. November, 2018. 46 pages. Advisor: Casey Rawson**

This study examines the ways in which black females are under served in United States Public Schools. This study focuses on the lack of representation of black females in children's literature and school curriculum, as well as why that is problematic.

The researcher conducted a content analysis of the required and recommended reading listed in the EL Education third grade curriculum. This curriculum is used in all of Wake County Public School System and beyond. The researcher found that black females were under represented as protagonists and authors. Based on these findings, the researcher recommends that all librarians in Wake county be active and intentional in providing resources that show and celebrate the lives of black females. It is also recommended that librarians not only provide these resources in the library, but also support classroom teachers by collaborating on instruction to ensure that diverse books are included in the Curriculum.

**Rae Hoyle. Exploring Punk Rock Archives. A Master's Paper for the M.S. in L.S. degree. August, 2018. 18 pages. Advisor: Denise Anthony**

This study explores a questionnaire survey of archivists who manage punk rock special collections at institutions in the United States. This exploratory paper provides an overview of punk rock music and the subculture it spawned, and how it fits into the cultural studies sphere, as well exploring which institutions are currently collecting in this realm and how this institutional punk rock archival collections support the organization's overall mission and collection development.

Three archivists at three separate institutions were contacted to participate, but only one survey response was submitted. Examining her response affords an opportunity for possible guidelines for other special collections similar in size and scope to utilize when creating their own subcultural studies collections.

**Kelsey E. Moen. Moving Forward: Shifting Perspectives on the "Protocols for Native American Archival Materials" in the Archives Community. A Master's Paper for the M.S. in I.S degree. August, 2018. 32 pages. Advisor: Denise Anthony**

In 2007 a group of nineteen tribal leaders, archivists, librarians, and information professionals came together to create a document of suggested best practices for the care of Native American collections held by non-Native institutions. Called "The Protocols for Native American Archival Materials," the focus of the document was to encourage institutions to build a collaborative relationship with the tribes reflected in their records. In 2008 the Protocols were proposed to the Society of American Archivists (SAA) for endorsement. SAA declined to endorse the Protocols and controversy among the archival community ensued; however, a decade later the SAA Council voted to officially endorse the Protocols as an external standard. By analyzing the relevant published literature and discussion on public and professional archival forums, this study aims to discover what in the shifting archival zeitgeist over the past ten years has prompted SAA's reversal on the topic.

**Dezarae Osborne. Collecting Better: A Case Study of the Collection Development Policies and Collecting Habits of Rural Public Libraries in Western North Carolina. A Master's Paper for the M.S. in L.S degree. November, 2018. 85 pages. Advisor: Sandra Hughes-Hassell**

Diverse literature can have a range of positive impacts for teen readers. As part of their mission, the Young Adult Library Service Association recommends libraries collect materials that represent a vast array of identities and lived experiences. This study examines how five rural public libraries in western North Carolina talk about collecting diverse materials for youth in their collection development policies using content analysis. The collecting habits of the libraries are also examined using a content analysis. The study found that while the selected libraries are collecting some diverse materials, collection development policies do not reflect a need for or promotion of diverse or #OwnVoices materials. Suggestions for creating more inclusive collection development policies that advocate for diverse collections are included.

**Jennifer Overstreet. Who Will Teach Their History?: An Examination of the Use of Archival Holocaust Material In College Classrooms Throughout The United States. A Master's Paper for the M.S. in Library Science degree. December, 2018. 87 pages. Advisor: Ronald E. Bergquist**

The archival community stresses the importance of teaching with primary sources as well as engaging with professors to encourage their use of archival materials, yet little research has been done from the perspective of the educator. Simultaneously, Holocaust scholars and educators argue the importance of utilizing primary source materials when teaching about Holocaust history, though the scope and extent to which professors use these materials is unknown. This study was conducted to examine the use of archival Holocaust material from the perspective of current Holocaust history educators in colleges and universities throughout the United States. A survey consisting a total of 23 questions was sent to 143 candidates; 20 responded as ineligible, and 52 completed the survey. Questions asked the participants what types of archival materials they use, from which Memory Institutions they were acquired, and how the materials were used by respondents in courses. Additional questions pertained to archives specifically, including the use of collections, contact and experiences with archivists and librarians, as well as experiences obtaining archival materials and any obstacles faced when attempting to access these materials. The study found that almost all of the professors use at least two different types of archival material in their courses and most consistently use archival materials that are visually and emotionally engaging, and that experiences with Memory Institutions as well as archivists are typically positive. The majority of respondents indicated encountering minimal, if any, obstacles when attempting to access archival materials.

**Emma C. Parker. Sourcing Success: Assessment Techniques of Digital Cultural Heritage Crowdsourcing Projects. A Master's Paper for the M.S. in L.S degree. November, 2018. 52 pages. Advisor: Denise Anthony**

This study focuses on how libraries, archives, museums, and other cultural heritage institutions define and assess the success of online crowdsourcing projects. The research was conducted via a survey of twenty-two digital crowdsourcing projects ranging from transcription of digitized archival materials to wildlife documentation projects.

The survey found that institutions had diverse reasons for undertaking crowdsourcing projects and monitored project success through multiple assessment measures dependent on project goals. Survey respondents reported greater satisfaction with their project outcomes when they had identified at least one measurable goal prior to starting the project. In general, survey respondents reported positive feelings about, and an interest in future crowdsourcing projects as tools for description, community engagement, and user Recruitment.

**Brian Pugsley. An Open Educational Resources Kit for the Academic Library: Supporting Student Success and Scholarship. A Master's Paper for the M.S. in L.S. degree. November, 2018. 21 pages. Advisor: Will Cross**

This paper accompanies a project website, <https://oer-brian.squarespace.com/>. The website consists of steps students, faculty, administrators, and librarians can take to advocate and support the adoption of open educational resources at their institution. It provides information and examples specific to each subgroup. The paper provides background on the issue and describes the process of developing the website and changes made based on feedback from users.

**Emma R Scales. "Technologies of Peace:" An Examination of Digital Sustainability. A Master's Paper for the M.S. in L.S degree. November, 2018. 48 pages. Advisor: Denise Anthony**

Increasingly sophisticated digital technology has opened new ways to interpret and display scholarship. These new projects raise questions about their sustainability once the initial release has passed. This paper examines the work of Hidenori Watanave, a University of Tokyo professor who created a series of digital archives, as a case study of the long-term sustainability of digital projects. By reviewing information gained through an interview with Watanave, materials he published, and resources available online, it became clear that Watanave took some digital preservation steps and worked to build participation. Watanave can continue to build sustainability by expanding his digital preservation, better documenting his digital preservation steps, and working with local archivists or information professionals. Part of this paper focuses on Watanave's use of the term "digital archive" when naming his projects. In researching Watanave's work it became apparent that the term "digital archive" does not accurately represent the content and format of his projects.

**Nidhi M. Shah. Predictive Modelling to Identify Risk Factors Leading to Opioid Addiction. A Master's Paper for the M.S. in I.S. degree. November, 2018. 48 pages. Advisor: David Gotz**

Prescription Opioid Abuse continues to be a significant and growing problem in the United States. According to the National Institute of Drug Abuse, more than 115 Americans die every day from an opioid overdose. Considering the graveness of the situation, this project aims at briefly studying the current trends and literature pertaining to the opioid epidemic and coming up with preventive measures. This was done by studying prevalent literature

and data available on this subject to analyze patterns and trends of opioid addiction to help identify risk factors, using predictive modelling.

**Vanessa C. Shortley. 'But Now I Yearn for a ... Story About a Cripple Who Isn't Cured': Representations of Disability in Middle Grade and Young Adult Literature. A Master's Paper for the M.S. in L.S degree. November 2018. 110 pages. Advisor: Sandra Hughes-Hassell.**

Disabled youth and teens, like those from other marginalized identities, need authentic and honest representations of themselves in books, but disability has long been excluded from many calls for more diverse books. This critical analysis examines 10 middle grade and young adult books for stereotypical portrayals of disabled people and how the authors cultivate or subvert those tropes. It also discusses how disability is viewed in society, the language of disability, and the necessity of critically engaging with literature.

**Brittany Soder. Youth Should be Seen and Heard: A Case Study in Youth Activism in Public Libraries. A Master's Paper for the M.S in L.S degree. November, 2018. 57 pages. Advisor: Casey Rawson**

According to the US Census Bureau (2016), youth make up 22% of our population. Despite making up such a large portion of our population, teens are oftentimes expected to sit quietly, with no place in society to make a difference. As a part of the larger community, the public library is an optimum place for teens to gain important leadership and advocacy skills. This case study looks at how and why librarians throughout the United States are incorporating activist-focused programs and events for their youth. Interviews were conducted and coded for themes that emerged from connected learning theory and critical social youth empowerment theory. The results suggest that librarians must first understand the whole community they serve, cultivate relationships with youth, and allow for interest driven programming. These suggestions lay the groundwork for further youth activist work in libraries.

**Merisa E Tomczak. "These Things Come From People:" Describing the Affective Relationship Between Archivists and Donors of Personal Materials. A Master's Paper for the M.S. in L.S degree. December 2018. 56 pages. Advisor: Denise Anthony.**

This study describes the ways in which archivists provide individualized emotional support to donors of personal materials as a regular part of their professional duties. Semi-structured interviews were conducted with four

professional archivists whose duties consist predominantly of working with donors of materials in various collecting areas of Wilson Library Special Collections at the University of North Carolina at Chapel Hill.

Findings confirm the importance of life transitions and affective relationships during the donation process, and introduces the importance of mentorship from supervisors and on-the-job training during the early careers of future collecting archivists.

**Ayla Toussaint. Finding a Way Through the Crowd: How Keyword Choices Affect Discoverability in Crowdsourced Archival Tagging. A Master's paper for the M.S. in L.S. degree. November, 2018. 60 pages. Advisor: Ryan Shaw**

This study explores the challenges archivists face when determining how to structure a crowdsourced tagging initiative in their collections. Specifically, the study aims to research the differences in controlled vocabulary tagging and folksonomy tagging in volunteer based digital archival tagging initiatives. The current literature focuses on the merits of crowdsourced metadata in its various forms, but few sources explore which formats lead to better discoverability.

In order to begin to answer this question, five library, museum, and archives professionals were interviewed and asked to discuss their institution's crowdsourcing projects in depth. Their answers were then mined for overarching themes and insights into crowdsourcing and vocabulary type. In the end, it was discovered that there is no one correct vocabulary system for crowdsourcing, but that by answering key questions about specific institutions, collections, and volunteers, a unique approach can be created for each new project to ensure the best outcome.

**Natasha Vázquez. Cluster analysis of high-dimensional customer data from a subscription-based business. A Master's Paper for the M.S. in I.S degree. November, 2018. 53 pages. Advisor: Rajasekar Arcot**

Cluster analyses are an established method for identifying natural groupings of customers for customer segmentation. However, the unsupervised nature of clustering algorithms and the high-dimensionality of customer data complicate the analysis at all stages. This project presents the results from a cluster analysis of high-dimensional customer data from a subscription-based software company. The analysis tested multiple dimensionality reduction methods, outlier and noise detection methods, and clustering algorithms (including deep neural networks). The results and models from the analysis can be used to inform

strategy around customer support and feedback, and can serve as the basis from which additional analyses can be conducted.

**Xiaomeng Wang. Synsets improve short text clustering for search support: combining LDA and WordNet. A Master's Paper for the M.S. in I.S. degree. November, 2018. 65 pages. Advisor: Stephanie W. Haas**

In this study, I proposed a short text clustering approach with WordNet as the external resources to cluster documents from corpus.byu.edu. Experimental results show that our approach largely improved the clustering performance. The factors that have an influence on the performance of the topic model are the total number of documents, Synsets distribution among topics and words overlapping between the query's Synsets. In addition, the performance will also be influenced by the missing Synset in WordNet. Finally, we provide an idea of using clustering approaches generating ranked query suggestion to disambiguate the query. Combining with Synsets of the query, text document clustering can provide an effective way to disambiguate user search query by organizing a large set of searching results into a small number of groups labeled with Synsets from WordNet.

## Spring 2019

**Jesse L. Akman. A Critical Discourse Analysis of the Historical Development of the Library Bill of Rights. A Master's Paper for the M.S.L.S degree. April, 2019. 63. Advisor: Casey H. Rawson**

This study describes a critical discourse analysis of the officially adopted versions of the American Library Association's Library Bill of Rights (LBR). This analysis was performed to examine how –if at all– the LBR has materially changed since its initial version, and what this might say about the document itself, and its relationship to librarianship. The five official versions of the LBR from 1939-2019 were analyzed using Stuart Hall's models of encoding/decoding and hegemony. The language of iteration was examined individually as well as relative to previous and subsequent versions of the document. A taxonomy was then developed. The data and their analysis suggest the LBR is the discursive practice through which hegemonic consent is created and rearticulated.

**Maudrie Alexis. How can Increased Electronic Health Record Interoperability be Achieved through the use of APIs?. A Master's Paper for the M.S. in I.S degree. April, 2019. 42 pages. Advisor: Fei Yu**

This paper investigates how application programming interfaces can be used to improve the interoperability (or shareability) of health records. Electronic health records store health information that originates from various sources like prescription order systems, medical devices and even other EHRs. An API helps these disparate systems exchange information with one another. APIs can improve data sharing by using secure standards like FHIR. Having all off this integrated and usable data can aid in the clinical decision process. This would also allow patients to have a more comprehensive look at their health data in patient portals.

**Sarah E. Almond. Privacy in the Past: A Study of the Use of Unrestricted Health Information in Digitized Medical Archival Collections. A Master's Paper for the M.S. in L.S. degree. April, 2019. 61 pages. Advisor: Denise Anthony.**

There are significant concerns for those working in medical archives, health sciences collections, and history of medicine collections regarding the provision of online access to medical records. Archival control is required to de-identify all records containing protected health information (PHI) as defined by the Health Information Portability and Accountability Act (HIPAA), but 2013 alterations to the privacy rule included a change in the definition of PHI that excludes information about individuals deceased for more than fifty years. This exploratory study investigates how archivists in medical and health collections approach the use of this newly available unrestricted health information (UHI) in digital environments. Interviewed participants address how they conceptualize UHI, view the practice of digitization, impose standards on their practice, and manage access to collections online. Findings suggest that archivists do not perceive significant differences between online access to PHI and UHI online, exerting archival control by de-identifying all online data.

**Daniel J. Anderson. Knowledge Management (KM) Requires Records Management: The Role of Retention Schedules in Businesses with KM Programs. A Master's Paper for the M.S. in LS degree. April, 2019. 43 pages. Advisor: Rebecca Vargha**

Knowledge management (KM) is revolutionizing the ways business and public institutions preserve institutional memory and knowledge sharing. Companies found KM important for competitive advantage in the marketplace, because it provides a way to reflect on “lessons learned” from previous projects and programs. Information professionals (IPs) provide services to their clients by

describing and locating needed information. New technologies and institutional needs have created a divide between the traditional IPs (librarians, records managers, and archivists) and KM positions (knowledge managers and information managers). Questions regarding whether librarians have the appropriate knowledge, skills, and abilities (KSAs) to handle the new era in IT presume an archaic, information-preserving heritage. The archival artifacts are not physical manifestations but continuously changing collections of bits and formats. It would seem KM and records in knowledge management systems (KMS) require an IP with the technical skills and educational background to handle the new demands.

**Madeline Anglin. Reading Riordan & More: An Analysis of Interviews Conducted in Chapel Hill Public Library to Determine Why Children Are Drawn to Mythology Retellings in Fiction. A Master's paper for the M.S. in L.S. degree. April, 2019. 36 pages. Advisor: Brian Sturm.**

This study describes an in-person interview of children patrons of the Chapel Hill Public Library system who enjoy reading mythology retellings. The interviews were conducted to determine the reason or reasons why children are drawn to these books.

The eight children who participated in the interview were between ages 8 and 16. The qualitative interview process ranged from 8 minutes to 20 minutes. Interviews appear to indicate a pull towards mythology retellings due to several reasons, ranging from plot to genre to the mythology itself, or a mix of those. The children interviewed displayed a mix of learning objectives as well, where some wanted to only read and learn more about mythologies they already knew, and some wanted to explore new territories. In addition, the popularity of Rick Riordan's works played a huge roll in these interviews.

**Samantha J Awad. Whose History?: Examining Colonial Records and the Archivists' that Preserve Them. A Master's Paper for the M.S. in L.S degree. April, 2019. 35 pages. Advisor: Denise Anthony**

This study describes interviews and surveys of archivists and librarians from various institutions nationwide. I conducted to learn more about who archivists believe should be done about these collections. I interviewed six archivists and librarians for this study. Published literature about colonial records suggests that these documents and their information belong in the country of origin for cultural significance and that repatriation is one of the best courses of action. The archivists interviewed for this

research study, however, share the opposite of this argument, and believe that the best place to store colonial records is in an institution that can properly care for the material, and share their information with the most amount of people.

**Eugene H. Bang. An Analysis of Upwork Profiles: Visualizing Characteristics of Gig Workers using Digital Platforms. A Master's Paper for the M.S. in I.S degree. April, 2019. 35 pages. Advisor: Mohammad H. Jarrahi**

In the transitional period of manual and algorithmic hiring, there has been an explosion of new employment opportunities. As a result of the ubiquity of mobile communication technologies, a gig economy has emerged which champions digital platforms as a solution to meet the burgeoning demand for on-demand workers, frequently called independent contractors or freelancers, by hiring organizations. Visualizations and linear regression are used to study information-rich Upwork profiles to determine variables that could predict how users maneuver in the gig economy. A typology of existing gig workers' motivations is combined with visualizations to better understand the situation of the typical gig economy worker.

**Spencer L. Bevis. Software Emulation and the Video Game Community: A Web Content Analysis of User Needs. A Master's Paper for the M.S. in L.S. degree. April, 2019. 76 pages. Advisor: Megan Winget.**

In the past decade, archives have utilized emulation to preserve older pieces of software including video games and make them accessible to patrons. However, recent literature neglects user needs for emulated software in archives. Using web content analysis, this study examines the text of nearly 1,200 online comments, threads, and forum posts about software emulation from four different websites. The findings suggest that audiences are keenly aware of software emulation but not of emulation as a way to preserve video games. It also found that user needs are often unique or even contradictory, and much user attention is paid to the visual quality of emulation systems as well as the quality of the emulated experience. The author suggests a number of policy proposals for libraries and archives that argue greater public input is necessary in the creation and development of systems that preserve software through the process of emulation.

**Christopher D. Bravo. The Design and Development of a New Web Database for Oberlin Cemetery, Raleigh, North Carolina. A Master's Paper for the M.S. in I.S. degree. April, 2019. 39 pages. Advisor: Fei Yu**

This study describes the needs of users seeking information about deceased individuals on cemetery websites. What should a web database designer keep in mind when creating a new database of burial records for a cemetery website? Through the use of usability testing on three different cemetery websites, this study reveals behaviors that distinguish cemetery website usage from that of other websites. Usability tests were performed with nine participants from the Friends of Oberlin Village organization. The results demonstrated that users seeking information about deceased individuals prefer visual and geospatial information in addition to textual data. Cemeteries are inherently visual and physical places, and search results should reflect this through the use of photographs, maps, and visual aids. Moreover, many users value the ability to share knowledge with others. The information gathered in this study will be used in the design of Oberlin Cemetery's new web database of burial records.

**Miana Breed. Capturing a Moment: The Practices and Ethics of Social Media Archiving. A Master's Paper for the M.S. in LS degree. April, 2019. 73 pages. Advisor: Denise Anthony**

The rise in popularity and ubiquity of social media has led to an increase in archival collection of social media data. Collecting and preserving this data is a relatively new challenge and creates technical and staffing barriers for archives. In an exploratory study of the practices and ethics of social media archiving, thirty-eight archivists responded to a Qualtrics survey about their institutional practices, their opinions of the ethical responsibilities of archives toward social media users, and the questions they still have about social media archiving. The survey revealed that only half the participating archival institutions collect social media. A majority of institutions collect data from blogs, Facebook, and YouTube, and most report using some form of API collecting tool. After reviewing the results of the survey, some current social media collecting policies, and a national web archiving survey, findings were framed using the ethical concerns voiced by the Documenting the Now project. The study suggests that archivists in general have the desire to use donor agreements and other permission forms for social media archiving, but the tools to contact all potential users are not yet available. This study forms an initial argument for further research into the best practices and ethical responsibilities of social media archiving.

**Kristina A. M. Bush. The Museum Experience: Comparing Art Insiders' and Art Outsiders' Experience of the African Art Gallery at the Ackland Art Museum. A**

**Master's Paper for the M.S. in L.S degree. April, 2019. 56 pages. Advisor: Melanie Feinberg**

This study explores the implications of how a museum gallery is organized on visitors' experience in that gallery. The visitors in this case were art insiders, or Art History Masters candidates, and art outsiders, Library and Information Science Masters candidates. Interviews were conducted to understand their experience in the African Art Gallery of the Ackland Art Museum and how the arrangement of the objects and information provided in the gallery impacted that experience.

Much work has been done about the display of non-Western objects in the context of Western encyclopedic museums. However, few have interviewed visitors to see how they feel while in the museum. The Ackland Art Museum installed the African Art Gallery in December as part of a larger reorganization of the museum's permanent collection galleries. This study assesses this reinstallation and provides information that could be used to improve the African Art Gallery.

**Kirubanand Chandrasekaran. Analyzing the Trends in Prescription Opioid for the U.S. Civilian Noninstitutionalized Population. A Master's Paper for the M.S. in I.S degree. April 2019. 49 pages. Advisor: Javed Mostafa**

As per the National Institute of Drug Abuse, more Americans die every day from opioid overdose. The problem of obtaining opioids through non-illicit prescriptions (obtained through doctor-patient relationship) is rarely discussed. This project analyses the increase in opioid recommendation in the U.S. population by analyzing the datasets provided by Medical Expenditure Panel Survey (MEPS). The survey data is analyzed for patterns and documented in the form of workflow. This project also aims at creating a predictive model with independent variables to identify the likelihood of opioid addiction.

**Nadia M. J. Clifton. Themes in Diversity Statements of Academic Libraries. A Master's Paper for the M.S. in L.S degree. April, 2019. 31 pages. Advisor: Amelia Gibson**

This study examined the themes present in Diversity Statements of libraries at schools with an ALA Accredited program in Library and Information Studies. A quantitative and qualitative content analysis method was conducted using a coding scheme found in the literature which coded for themes in university diversity statements. In addition, strong emergent themes specific to Library Diversity Statements were coded for as well. Results indicate that very few libraries have Diversity Statements available

online, and of those that do, many are more focused on the Library or the University than they are focused on diversity.

**Hunter J. Corb. *Women in the Book Trade in Revolutionary England: A Social Network Analysis*. A Master's Paper for the M.S. in L.S degree. April, 2019. 51 pages. Advisor: David Baker**

The role of women in the early modern book trade is a topic of increasing emphasis and discussion among scholars of the history of the book. Many scholars have compiled extensive bibliographic entries and conducted in-depth archival research of individual women, yet their sporadic appearance in the historical record has led to a less-than-full picture of the realities of the working book trade. The researcher has used social network analysis in an attempt to answer this question by positioning and analyzing the status of women within the total book trade network of Revolutionary England. Through statistical tests such as eigenvector centrality, betweenness centrality, and community detection, the researcher has identified specific communities and important women figures in the network, as well as hubs and connecting nodes—key figures in the network—that warrant further localized attention.

**Christina Cortland. *Crowdfunding in Libraries: An Analysis of Library Crowdfunding Project Data*. A Master's paper for the M.S. in I.S. degree. April, 2019. 61 pages. Advisor: Jaime Arguello**

Crowdfunding is one of the newest strategies libraries are using to connect with donors. While the past several years have produced a consistent trickle of reports about libraries using crowdfunding to extend traditional fundraising activities, research thus far has largely been constrained to case studies and surveys. By studying 174 library and archive projects on Kickstarter and Indiegogo, this research determined that library and archive crowdfunding campaigns raise more money on average and are more likely to successfully meet their funding goals than typical Kickstarter campaigns. Additional findings regarding types of projects crowdfunded, types of libraries crowdfunding, and amount of campaigns launched over time are discussed. This study hopes to support library practitioners in judging the feasibility of crowdfunding as a practical fundraising strategy and determining the contexts in which crowdfunding is most likely to be successful.

**Carmen S. Dolling. *Visualizing U.S. Animal Shelter Outcomes*. A master's paper for the M.S. in I.S. degree. April, 2019. 74 pages. Advisor: David Gotz.**

This paper introduces the ShelterViz web app, an interactive visualization platform developed to make U.S. animal shelter and rescue data accessible and easy to explore. Using a dataset provided by the nonprofit organization Shelter Animals Count, the ShelterViz project allows users to manipulate more than 100 different intake and outcome statistics collected from over 4,000 shelters and rescues across the United States.

This research project employed a design-study methodology as well as approaches grounded in visual analytics and user-centered design. The website was developed using HTML5, CSS, Javascript, and D3.js. The results of the usability testing indicate support for the project and its potential to help shelter and rescue organizations to better understand the impacts of various factors on animal outcomes, recognize trends in their data over time, and ultimately take steps to improve animal welfare.

A demo version of the website can be accessed at <https://www.shelternviz.com>.

**Hongyi Dong. *A Task-Oriented Usability Study of the Carolina Digital Repository with Casual Users*. A Master's Paper for the M.S. in I.S. degree. April, 2019. 64 pages. Advisor: Bradley M. Hemminger**

A series of in-person and task-oriented usability tests were conducted to evaluate the functional interface of the new Carolina Digital Repository system. The participants were ten students affiliated with the School of Information and Library Science at the UNC Chapel Hill, who were also casual users of institutional repository systems. This research generated a list of usability findings based on a compact task evaluation framework, and the results could serve as guidelines for repository interface designers.

**Claire J. Du Laney. *Lifecycle, Affect, and Healing: Examining Sustainability in Community Archives and Cultural Heritage Projects*. A Master's Paper for the M.S. in L.S degree. April, 2019. 75 pages. Advisor: Denise Anthony**

This research examines the role of sustainability in community archives, exploring the ways in which practitioners talk about sustainability in their work, with their communities, and with colleagues. Through researching relevant literature and conducting interviews with practitioners, it became evident that institutional sustainability is not a common or frequently examined idea in community archiving. Rather, when sustainability is discussed it is much more abstract, focusing on relationships within the community, legacy, and sustaining the spirit of the work rather than the individual projects. The most institutional-like

sustainability talk tends to focus on the digital. For these practitioners, sustaining the spirit and community momentum, focusing on relationship-building, education, trauma healing, and increasing visibility of minority narratives, allows for project flexibility and acknowledged lifecycle of individual initiatives.

**Margaret Elizabeth Edwards. “What’s Going on in There?”: How Users Are Using Resources for Collaboration in Reservable Group Study Rooms in the University Libraries at The University of North Carolina at Chapel Hill. A Master’s Paper for the M.S. in L.S degree. April, 2019. 57 pages. Advisor: Rebecca Vargha**

In an era where students rely on the academic library much more often for study space and services than for locating books, libraries have had to increase focus on what students need to successfully study. With a rise in collaborative assignments, one thing students need is collaborative group study space, but it is often difficult for library staff to discern what exactly students need from these necessarily private areas. This study sent surveys to group study room users at The University Libraries at The University of North Carolina at Chapel Hill and observed group study room sessions to learn how students use the resources in these spaces. Findings indicate that convenience is an important factor for resource use, remote collaboration and interviews occur in the spaces, and Google Documents are important parts of the student collaboration process. Use based on factors such as department affiliation is also discussed.

**Emma K. Evans. Semantic Interoperability of Moving Image Records in Aggregating Digital Repositories: A Comparative Study of Dublin Core and PBCore Descriptive Metadata Schemas. A Master’s Paper for the M.S. in L.S degree. April, 2019. 44 pages. Advisor: Melanie Feinberg**

This study examines the Dublin Core and PBCore metadata schemas as they are applied to publicly-accessible moving image records in four aggregating digital repositories. This research was conducted to determine which schema is optimal for moving image description based on the schemas’ level of semantic interoperability. In the context of this analysis, semantic interoperability is defined as the complete and consistent interpretation of elements across records.

Twenty-five records were sourced from each repository. Each record was mapped to the metadata schema employed by its repository. The selected records and their crosswalks were then analyzed for completeness and consistency. Upon

comparing the analyses of the Dublin Core-based records and the PBCore-based records respectively, it can be determined that both schemas face interoperability issues in the description of moving image records. Thus, optimality of a particular schema for moving image description must be discerned within the context of each particular use.

**Margaret Foster. “Power to the People!”: Teen Experiences at a Chicago Public Library Open Mic Series. A Master’s paper for the M.S. in I.S. degree. April, 2019. 94 pages. Advisor: Dr. Sandra Hughes-Hassell**

This case study looks at the experiences of young adults and librarians at a collaborative program for teens at the Chicago Public Library called OpenMike. Held at the Harold Washington Library Center and hosted by Chance the Rapper’s non-profit, SocialWorks, OpenMike is a monthly performing arts showcase event for high school students that provides a teen-only space for creative expression, networking, and community building. As a highly attended event with teens coming from all over the Chicagoland, OpenMike highlights some of the elements needed to create a successful public library program for diverse youth, including arts and digital media, mentors, peer support, and both a physical space for teens and metaphorical “safe space.” This case study adds to the growing body of literature regarding the current and future landscape of teen services in public libraries.

**Lauren A Geiger. To Bot or Not To Bot: An Exploratory Usage Study of Digitized Materials from the North Carolina Collection. A Master’s Paper for the M.S. in L.S degree. April, 2019. 36 pages. Advisor: Anne T. Gilliland**

Usage statistics have consistently been an integral part of collection development for libraries and archives, as they allow the staff to understand what kinds and types of materials their patrons want. As more of these institutions turn to digitization to make their materials accessible, usage statistics become more important as digital materials can be costly. In this exploratory paper, I tracked the usage of recently digitized materials from the North Carolina Collection at Wilson Library that were uploaded to both the Internet Archive and the HathiTrust. As the study lasted for two months and one month, respectively, I can draw no strong conclusions from the data, but rather a baseline for further studies for this collection.

**Tessa B Gibson. An Evaluation of Young Adult Service and the Use of Policy in Central Appalachian Public**

**Libraries. A Master's Paper for the M.S. in L.S degree. April, 2019. 31 pages. Advisor: Mary Grace Flaherty**

There is a considerable lack of formal research on youth services in rural public libraries, particularly those libraries in Appalachian regions. This paper introduces the subject of young adult services in rural Appalachia as a significant point of discussion, and aims to evaluate the use of policy for young adult services in Central Appalachia, a sub-region that is understudied and underserved. The websites of sixteen counties in southeastern Kentucky were explored to determine the presence of policy for youth services, as well as dedicated programming and space for teenagers. Policies, where they exist, were subject to a conventional content analysis. The findings of this study revealed that only one public library of the sixteen sampled utilized a policy for young adult services, while a total of two libraries offered a teen space, and three libraries conducted current programming for young adults.

**Morgan M Goodman. "What is on this disk?" An Exploration of Natural Language Processing in Archival Appraisal. A Master's Paper for the M.S. in IS degree. April, 2019. 45 pages. Advisor: Cal Lee**

This paper explores current processes in archival appraisal and selection and investigates the potential uses of automation in the processes. Through an exploration of the BitCurator NLP topic modeling tool, bitcurator-nlpgentm, I evaluated reactions by participants who agreed to an interview and exploration of the tool. I conclude that topic modeling can assist archivists through identification of like-collections and possible duplication within hybrid collections. Outside of appraisal, topic modeling tools may have uses for archival description and arrangement. Researchers and those with subject matter expertise may also benefit from these tools. This paper points to areas where topic modeling is effective and offers suggestions for making NLP and topic modeling more universally practical in archival workflows.

**Yaxue Guo. ConnectCollege: Build a Web Application Promoting Instant Social Networking Based on Places for College Students. A Master's Project for the M.S. in I.S degree. April, 2019. 51 pages. Advisor: Ryan Shaw.**

This paper describes the design, development and testing of a web application called ConnectCollege. This application can help college students who are interested in the same place at the same time to know each other and increase their possibility to hang out together, which solves a common issue that it is sometimes hard for students to find company to study or entertain together. Generally

speaking, ConnectCollege supports searching places, viewing place details, finding people also interested in the place, chatting and making appointments. User requirement analysis and usability study of this application were performed with UNC students.

**Amanda R. Haddock A Bibliometric Analysis of Opioid Publications at the University of North Carolina – Chapel Hill. A Master's Paper for the M.S. in I.S degree. April, 2019. 52 pages. Advisor: Dr. Fei Yu**

With the increasing severity of the opioid epidemic in America, there has been an increase in publications addressing this urgent issue. However, no systematic analysis has been performed to identify who the main researchers are, where these studies are published, and what topics are they publishing on. Objectives: This study conducted a bibliometric analysis on opioid-related research publications produced at the University of North Carolina-Chapel Hill (UNC-CH). Methods: Bibliometric methods were used to reveal the research productivity within opioid research at UNC-CH. Organizational and country collaboration networks were generated to show the collaborated working with UNC-CH researchers. The topic analysis illustrated the range in topics over the past 20 years. Results: The results demonstrate that there has been a shift in topics over the past 20 years as well as the increase in collaboration with other academic research institutions.

**Caroline Hall. An analysis of information social exchange within the solar energy industry in North Carolina, USA. A Master's paper for the M.S. in I.S. degree. April, 2019. 87 pages. Advisor: Bradley M. Hemminger.**

This study describes the information exchanges that occur between six of the key entities in the North Carolina solar energy industry. This study was conducted to better understand how policy makers, lobbyists, third-party data organizations, solar developers, utilities, and landowners interact, gather, and share information. This study seeks to analyze the purposes and strengths of relationships between these six entities to better understand the type and significance of the information shared within the solar industry in North Carolina, United States. Data used for this study was collected first hand from 15 interview subjects with an active role within the industry. Ultimately, the level and means of open communication between these entities varies depending on the intent of each actor, with open, frequent communication and information distribution praised as the fundamental element of the industry's success within the state.

**Troy J Heilmann. Effects Field of Study and Level of Education have on Facebook Privacy Concerns and Actions. A Master's Paper for the M.S. in I.S degree. April, 2019. 43 pages. Advisor: Paul Jones**

This paper examines university students and their knowledge, concerns and actions in regards to privacy of personal data on Facebook. As Facebook continues to grow, it is important that users are aware of the types of information Facebook is collecting and how users can protect themselves. This paper uses interviews to determine whether or not focus of study and level of education contribute to a Facebook users' level of knowledge on the data Facebook collects, their privacy concerns and their likelihood to act to protect their personal data. The interviews provided results showing that graduate students studying Information Science are more knowledgeable and act to protect personal information more than undergraduates from various majors. This arises the suggestion that undergraduate studies should require online personal privacy courses.

**Kathryn R. Herring. How We Read the Soldier's Words: Subjectivity in Finding Aids Using Civil War Diaries From Academic Special Collections in the Mid-Atlantic Region. A Master's Paper for the M.S. in L.S degree. January 2019. 46 pages. Advisor: Casey Rawson.**

This paper presents the results of a tiered study that investigated the presence of subjectivity in Civil War diary finding aids. This study focused on two things: usage statistics of the diaries and an analysis of the diary finding aids. The analysis of the finding aids consisted of both a content and observational analysis. Findings suggest that there were more similarities than differences between the different finding aids, and that, though minor, subjectivity is present in academic special collection finding aids.

**Saumya Jain. Developing an Objective Framework for Measuring and Assessing the Implementation of Information Systems in a Healthcare Setting. A Master's Paper for the M.S. in I.S degree. May, 2019. 87 pages. Advisor: Dr. Lukasz Mazur**

This study aimed to examine the feasibility of developing an objective framework to evaluate and measure various aspects of the implementation of an Electronic Health Records (EHR) system. To measure the performance of the implementation in a holistic manner, three aspects were chosen - project management practices, readiness of users and the outcomes of the implementation. Documentation from a real-world EHR implementation project was analyzed to understand the landscape of implementation, and thereafter, a framework was proposed comprising these

three aspects and their component factors. This framework was applied retrospectively to test if it could assess the said implementation realistically. The results demonstrate the feasibility of defining such a framework with which an implementation may be measured objectively. Additionally, the development of the framework revealed underlying component factors for each aspect which have a contributory effect to the success of EHR implementation.

**Yiwen Jiang. Implementation of a High Recall Interactive Literature Retrieval System. A Master's Paper for the M.S. in IS degree. April, 2019. 43 pages. Advisor: Yue Wang**

This project-based study implements a high recall and high precision interactive literature retrieval system based on the ReQuery-ReClassify (ReQ-ReC) framework proposed by Wang et al. in 2014. The study summarizes the challenges and difficulties of current methods of literature retrieval and review in achieving high recall in addition to high precision. Following the double-loop mechanism of the ReQ-ReC framework, the project applies the methodology of system design, database design and user interface design to turn the framework into a real-world web application. Heuristic evaluation for the user interface design indicates that the system is user-friendly and can be integrated with literature retrieval systems like PubMed.

**Richa Kanwar. Identifying Facilitators and Barriers in the Application of Contextual Inquiry to Understand Provider Burnout. A Master's Paper for the M.S. in I.S degree. May, 2019. 70 pages. Advisor: Dr. Lukasz Mazur**

The purpose of this study was to identify the factors and decisions that affect the implementation of Contextual Inquiry, and explain which factors act as facilitators contributing towards the success of the project and which factors act as barriers hindering the success of the project. To determine these factors this study observed the application of Contextual Inquiry in a real-world project where it was applied to understand the reasons behind healthcare provider burnout. Using methods such as interviews, surveys and group discussions with the implementation team of the real-world project, this study was able to identify 18 Facilitators, 9 Barriers, and 3 Critical Decisions that impact the outcome of a Contextual Inquiry implementation in a healthcare setting.

**Caitlin K. Kennedy. Evaluating and Addressing the Special Collections Needs of Rhetoric and Composition Instructors in University First-Year Writing Programs. A Master's Paper for the M.S. in L.S degree. April, 2019.**

**140 pages. Advisor: Mary Grace Flaherty**

This research considers the role of collaboration in library instruction and archival pedagogy for first-year undergraduate students. To move beyond the archival orientation and one-shot instruction session, special collections librarians must work proactively with instructors to develop assignments, plan and deliver lessons, and measure student learning outcomes. They must also consider and counteract significant barriers to archival research, such as lack of representation and accessibility in the archives. Based on seven interviews with faculty and graduate student instructors in UNC's First-Year Writing Program, this research considers the possibilities and challenges of curriculum co-development and other instructional collaborations between special collections librarians and rhetoric and composition instructors. It also analyzes instructors' responses to a set of digital learning modules that were created specifically to facilitate archival pedagogy within the curriculum and learning context of the First-Year Writing Program.

**Tianlin Lan. Does the Customer Review of Airbnb Homes Correspond to their Aspect Scores? Sentiment Analysis using a Proposed Sentence-to-aspect Relevance Model. A Master's Paper for the M.S. in I.S degree. April, 2019. 64 pages. Advisor: Stephanie W. Haas**

Most Airbnb homes have high ratings with a large proportion of positive reviews from users. However, the Airbnb website only releases the rating score of each aspect for each home. The aspect scores given by each reviewer are not available on the website. It is possible that the overall aspect score does not really reflect users' sentiment as represented in their comments about that aspect.

This paper proposes a methodology for finding the correspondence between aspect scores of Airbnb homes and the sentiments of their reviews. I set the sentiment analysis at the sentence level and proposed a sentence-to-aspect relevance detection approach for subjectivity classification step. The distributions of the sentiment polarities found in aspect-relevant for both the cleanliness and the location aspect show an apparent correspondence between review text and the aspect score.

**Zimu Li. An Exploration of Career-related Information Seeking Behavior on International Graduate Students at University of North Carolina, Chapel Hill. A Master's Paper for the M.S. in I.S. degree. April, 2019. 45 pages. Advisor: Bradley Hemminger**

In this study, the researcher conducts semi-structured interviews with sixteen international graduate students at

University of North Carolina, Chapel Hill to understand their information seeking behavior when choosing a career path. A detailed investigation of their information needs, information resources, and information barriers is done to understand international graduate students' academic information use. The result of this study shows that the use of information resources by international graduate students varied between master students and doctoral students. In situations where they had difficulties in defining a career path from their chosen resources, many of them reported their expectation for the campus career consulting services.

**Veronica D. McGurrin. A Content Analysis of Digital Art History Publishing Platforms. A Master's Paper for the M.S. in L.S degree. May, 2019. 49 pages. Advisor: JJ Bauer**

The landscape of art history publishing has vastly shifted in the past decade as it transitions to a digital world. While various constraints have hindered the growth of digital art history publishing, cultural institutions have now started to create comprehensive publications. This paper presents a content analysis of three different art history publishing platforms: the Getty Institute's Online Scholarly Catalogue Initiative, Canadian Online Art Book Project, and Artifex Press. The results of the study show that the majority of the publications focus on white, male, Western artists reinforcing canonical ideas of art history. Important structural trends are apparent from the analysis that can be utilized to examine future publications. The conclusion of the paper highlights the various new publications that have emerged since the start of the project, further reinforcing the idea that art history publishing is truly at a tipping point in regard to the proliferation of digital formats.

**Amelia Midgett-Nicholson. Engagement across the Globe: Academic Library Support of Study Abroad Students. A Master's Paper for the M.S. in L.S degree. April 2019. 54 pages. Advisor: Casey Rawson.**

Study abroad is playing an increasingly important role in the academic mission of higher education institutions in the United States. According to the Institute of Higher Education, more than 325,000 students studied abroad in the 2015-2016 academic year. Academic libraries have started to create programs and services to support the information needs of this growing population. In this study, five academic librarians were interviewed to find out if academic libraries support study abroad students, how they make decisions about that support, and what best practices exist for this type of library service. Suggestions for best practices and further research are included.

**Rachel A. Morris. *Liminal Space: Identifying Bisexual Materials in Public Library Catalogs. A Master's Paper for the M.S. in L.S degree. April 2019. 60 pages. Advisor: Casey Rawson.***

This study aggregates and analyzes the bisexuality-related subject headings used by three database types: folksonomies, public library catalogs, and a private subscription database. One folksonomy, one subscription database, and five public libraries (one from each region in the United States) were sampled to triangulate existing subject headings and how discoverable they are by database users. The folksonomy, which described only bisexual materials, was used to create a recommended reading list. These books were then searched for in the public library catalogs and the subscription database for sexuality-related subject headings and other descriptive metadata. Though each database contained at least some of the suggested materials, none correctly described each item; some were not described with bisexuality-related terminology at all, while some were misidentified as solely heterosexual or homosexual.

**Rebecca J Mullins. *Three-Dimensional Modeling Usage in Higher Institution Classrooms. A Master's Paper for the M.S. in L.S degree. April, 2019. 44 pages. Advisor: Ryan Shaw***

This study examines a series of interviews concerning the creation and utilization of three-dimensional objects in higher institutional learning. It examines how three-dimensional models are created, how objects are made available through copyright standards and future implications for three-dimensional technology.

**Brittany Norwood. *Haunted Collections: The Representation of Female Horror Authors in Public Library Collections. A Master's paper for the M.S. in L.S. degree. April 2019. 84 pages. Advisor: Brian Sturm***

While several women are writing or have written in the horror genre, the stereotype that women do not write horror remains prevalent. This perception can lead to these female horror authors being overlooked in library collections. As underrepresenting female horror authors can negatively impact their addition to the horror canon as well as strengthen the stereotype that women do not write horror, it is important to examine library catalogs to see if they are representing female horror authors in their collections. This study performed a modified list-checking format of collection assessment to analyze the representation of female horror authors in the collections of five public libraries in North Carolina. Overall, female horror authors appeared

to be more likely to be excluded from library collections than included, with levels of exclusion in library catalogs increasing for women of color who have written or are currently writing in the horror genre. Recommendations for how libraries can represent female authors in their collections are provided.

**Katie M. M. Odhner. *Subject Trends in Chinese Studies Academic Monographs and Library Collections: A Case Study. A Master's Paper for the M.S. in L.S degree. April, 2019. 79 pages. Advisor: Mary Grace Flaherty***

This paper explores how growth in the field of Chinese Studies has affected subject trends in academic publications, library holdings, and usage of Chinese Studies materials from 1992 to 2017. Using data on academic monographs published from EBSCO's GOBI (Global Online Bibliographic Information), comparisons were made with subject trends found in the Chinese Studies print collection at the University of North Carolina at Chapel Hill. Contrary to expectation, there was no discernible increase in social science literature relative to other subjects. Meaningful findings included an increased diversity in topics covered and the continuity in traditional areas of strength for Chinese-language resources. This paper also describes the methodology for using library metadata to measure subject trends, and discusses potential explanations for specific findings.

**William G. Osborne. *Collection Analysis of Sex Education Print Materials in North Carolina Public Libraries. A Master's Paper for the M.S. in L.S degree. April, 2019. 55 pages. Advisor: Mary Grace Flaherty***

Sex education print materials serve an important function in public libraries, as they provide youth with a safe, confidential way to obtain information regarding sexual health and behavior. However, public libraries have faced challenges developing these collections. This study compiles a checklist of sex education titles recommended by professional sources. Public library collections in North Carolina are selected through purposive sampling to account for library size and geographic region; titles from the checklist are searched for in these collections via electronic catalog. Results reveal that little uniformity exists between sex education collections in North Carolina public libraries, with no apparent correlation between collected recommended titles and collection size or regional location.

**Paige E Ottmar. *Overloaded in the ICU: Measuring Information Overload in Critical Care Physicians at UNC Hospital. A Master's Paper for the M.S. in I.S***

**degree. April, 2019. 108 pages. Advisor: Saif Khairat, PhD, FAMIA**

This study describes a questionnaire and simulation study of physicians working in the Intensive Care Unit at University of North Carolina Health Care. The questionnaires were employed to determine physicians' overall perceived feelings of information overload, satisfaction, and usability of Electronic Health Records, as well as to determine if differences exist between groups. The simulation study was conducted to determine physiological signs of information overload and its effect on task performance. Twenty-five physicians completed the questionnaires and the simulation study. Overall, physicians reported high levels of perceived information overload, with males reporting significantly higher overload than females. Additionally, pupillometry data suggested that almost all physicians experienced information overload at least once during the simulation study. Though information overload did not affect accuracy, results suggest that it made physicians significantly less efficient. Future studies are needed on the gap between subjective and objective measures of information overload.

**Kun Qian. Data Visualization in the Web-based Platform: Comparisons of Different Techniques / Data formats that Suit Web Information Design and Their Development. A Master's Paper for the M.S. in I.S degree. April, 2019. 44 pages. Advisor: Ryan Shaw**

Data Visualization has become an important way of visual communication today with the assistance of different media. The computer, because of its interactive features, has become a useful tool to help people analyze data, design visualized and interactive graphs and publish data visualization work for the public to view. The main goal of this research is to provide an overview of the development of data visualization techniques especially in the web platform. An analysis result was generated to give future technique development suggestions for both web-based data visualization producers and web developers.

**Yuwei Qian. How do freshmen find information orienting themselves in their first year of college? An investigation of the information seeking behaviors of first-year undergraduate students. A Master's Paper for the M.S. in I.S degree. April, 2019. 57 pages. Advisor: Ronald Bergquist**

Information seeking behavior (ISB) has been a popular topic to study for researchers in the information field over the years. College students, who are often referred to as millennials, are one of the most studied information user

groups. Their academic needs, social life and knowledge of technology have granted them different worldviews and information seeking habits. This study investigates the information seeking behaviors of first-year undergraduate students at UNC in terms of finding orienting information to better adjust to college life.

13 undergraduate students currently enrolled at UNC were interviewed in the study. The participants were asked a series of questions about their first-year experiences at UNC. Results indicate some common patterns among freshmen information seeking behaviors, which may then inform the university to provide better information access for future students.

**Jiaming Qu. A Medical Literature Search System for Identifying Effective Treatments in Precision Medicine. A Master's Paper for the M.S. in I.S degree. April, 2019. 58 pages. Advisor: Yue Wang**

The Precision Medicine Initiative states that treatments for a patient should take into account not only the patient's disease, but his/her specific genetic variation as well. The vast biomedical literature holds the potential for physicians to identify effective treatment options for a cancer patient. However, the complexity and ambiguity of medical terms can result in vocabulary mismatch between the physician's query and the literature. The physician's search intent (finding treatments instead of other types of studies) is difficult to explicitly formulate in a query. Therefore, simple ad hoc retrieval approach will suffer from low recall and precision.

In this paper, we propose a new retrieval system that helps physicians identify effective treatments in precision medicine. Given a cancer patient with a specific disease, genetic variation, and demographic information, the system aims to identify biomedical publications that report effective treatments. We approach this goal from two directions. First, we expand the original disease and gene terms using biomedical knowledge bases to improve recall of the initial retrieval. We then improve precision by promoting treatment-related publications to the top using a machine learning reranker trained on 2017 Text Retrieval Conference Precision Medicine (PM) track corpus. Batch evaluation results on 2018 PM track corpus show that the proposed approach effectively improves both recall and precision, achieving performance comparable to the top entries on the leaderboard of 2018 PM track.

**Leah E Ramsier. Evaluating the Usability and User Experience of a Virtual Reality Painting Application. A Master's Paper for the M.S. in I.S. degree. April, 2019.**

**84 pages. Advisor: Bradley Hemminger**

The purpose of this study is to identify the factors that contribute to and detract from the usability and experience of Tilt Brush. It compares usability issues between users with formal training in art, and users with no formal training. Twenty participants were observed creating artwork in Tilt Brush and interviewed about their experience. They also answered a questionnaire based on the System Usability Scale.

The data collected identified that conventions from 2D apps and a sense of presence in the 3D virtual environment positively impacted usability. A lack of control, issues navigating virtual reality, and a lack of familiarity with Tilt Brush negatively impacted usability. The group with formal training overall wanted more tools that increased control over the artwork than the group without formal training. Finally, the user experience of Tilt Brush was positively impacted by immersion, novelty, tools, possibilities, and potential as a creative outlet.

**Alexander Reher. Reorienting the VR Studio Orientation: A Contextual Design Study of a Virtual Reality Orientation Program in an Academic Library. A Master's paper for the M.S. in I.S. degree. April 2019. 77 pages. Advisor: Andreas Orphanides**

This case study describes an analysis and proposed redesign of the of the orientation process for the VR Studio in the D. H. Hill Jr. Library at North Carolina State University, using the contextual design methodology as described in *Contextual Design: Defining Customer-Centered Systems* (Beyer & Holtzblatt, 1998). Semi-structured interviews and contextual inquiry were used to study the orientation its surrounding operations. The author identifies several opportunities to improve workflows and enhance participant experiences and education. Key findings include the effects of variations caused by changes in presentation setting, the effect of audience size on learning opportunities, the instructional efficacy of the orientation structure and format, and the challenges in managing data collected over the course of orientations. The paper concludes with a series of recommendations for improving the orientation and its associated processes.

**Kimberly J. Reisler. Cognitive Authority and the Christian Worldview: An Examination of Goodreads Reviews of Christian Books. A Master's Paper for the M.S. in I.S. degree. March, 2019. 81 pages. Advisor: Ryan Shaw.**

This study examines how individuals engage with and evaluate Christian books and the cognitive authorities referred to when assessing these resources. 816 book reviews

pulled from the reviews for 10 books identified as Christian on the social media book site Goodreads were analyzed by qualitative coding. This content analysis identified themes relating to reader awareness of worldview, evaluative measures used to assess resources, and cognitive authorities referenced.

Evaluation of Christian books largely aligns with existing understanding of the general process of information assessment, with a few exceptions. The spiritual nature of the text, for many reviewers, led them to consider the information in light of personal spiritual experience and lent spiritual overtones to their evaluation of the author's character and expertise. Reviews also demonstrate the way in which individuals can weigh cognitive authorities differently within a shared worldview, resulting in differing information assessments.

**Caitlin Rivas. Understanding the Archivist's Role in the Contextualization, Removal, and Relocation of Confederate Monuments at Cultural Heritage Institutions. A Master's paper for the M.S. in L.S. degree. April, 2019. 53 pages. Advisor: Denise Anthony.**

This paper presents a study that explored five archivists' experiences with Confederate monument contextualization, removal and/or relocation at the cultural heritage institutions where they work. The findings reveal key themes and shared experiences among the five archivists, while highlighting individual experiences arising from each institution's unique circumstances. For example, although each institution considered the archives as a serious relocation site for the Confederate monuments in question, the archivists themselves had varying levels of involvement in the removal process despite their firm understanding of the history and conflict surrounding the monument. The archivists believed their unique insight into the monument at their place of work derived from their access to and knowledge of essential records and contextualizing artifacts as well as observation of public interest through research requests in their reading rooms. These archivists were also aware of safety and security concerns, the emotional impact Confederate monuments might have on their patrons, and the reality of whiteness in archives. Consequently, all of the archivists expressed strong beliefs that decision makers should consult archivists before, during, and after the monument removal or relocation process.

**Diane Judith Rodden. What Presentation of Search Engine Results Do Health Information Searchers Prefer? A Master's paper for the M.S. in I.S. degree. January, 2019. 258 pages. Advisor: Dr. Robert Losee**

A study of a sample of online health information searchers was conducted to see what their preferences are with respect to four different display styles for search engine results on health topics. Screen shots of search result display screens were presented to the participants via a Qualtrics ([www.qualtrics.com](http://www.qualtrics.com)) online survey. The other display types were Display 1: Google standard display, Display 2: Google enhanced with faceted browsable categories, Display 3: Google enhanced with a word cloud for each search result, and Display 4: Google enhanced with an overview word cloud for collection of search results. For each search task, participants were asked to rate the search engine results displays for quality indicators, using Likert-type item rating scales. At the end, in three concluding questions, the participants were asked to choose the display(s) that were best at meeting three specific criteria, based on overall impressions. The evaluations by the participants suggest that the standard Google search results display and the Google screen enhanced with faceted browsable categories were favored over the other two display types.

**Elizabeth L Roknich. Visual Techniques for Stormwater Management: Creation and Usability Study of a Stormwater Fee Dashboard. A Master's Paper for the M.S. in I.S degree. April, 2019. 37 pages. Advisor: David Gotz**

This study details the creation and subsequent usability study of a Stormwater Fee dashboard created for the Environmental Finance Center (EFC) at UNC Chapel Hill. The dashboard was created to assist leaders at stormwater utilities in North Carolina in assessing their financial health and setting their fees. The EFC has created several other dashboards over the years, but has never conducted any usability testing with their primary user groups. In order to elicit relevant feedback for improving the Stormwater Fee dashboard, I recruited three staff members at nearby stormwater utilities to complete a task-based think-aloud usability study. After collecting data, I synthesized it to identify actionable next-steps for improving the design and functionality of the stormwater dashboard. This study provides not only a user-tested design for the stormwater dashboard, but serves at a starting point for similar user research efforts for other EFC tools.

**Mara R. Rosenberg. Collective Biographies of Women Written for Children: A Project to Create a Selection Tool and Annotated Bibliography. A Master's Paper for the M.S. in L.S degree. March, 2019. 46 pages. Advisor: Casey Rawson**

The purpose of this project was to develop a selection tool and annotated bibliography of collective biographies

of women written for children. This paper provides a research base for and rationale of an online resource that librarians may use to support children in their research of women throughout history. The tool may also be used to support collection development. The website invites librarians to submit completed schema for collective biographies outside the scope of this project. Included within this paper are the elements of this master's project: the descriptive schema, directions for its use, the coding scheme used within the schema, and guidelines for evaluating text for problematic representation.

**Sarah Sculnick. "I don't want us to be ashamed anymore": Representations of Latinx Teenage Girls in Young Adult Literature. A Master's Paper for the M.S. in L.S. degree. April, 2019. 92 pages. Advisor: Sandra Hughes-Hassell.**

Latinx individuals are part of the youngest and largest minority group in the United States. Despite comprising a large part of the population, Latinx adolescents are largely underrepresented in literature. This content analysis examined twenty young adult books published between 2014, the year that the organization "We Need Diverse Books" was created, and 2017, all of which featured Latinx female protagonists. The study analyzes overarching themes present across the texts, and discusses how representations of Latina teenagers relied upon, or refuted, common stereotypes surrounding that community. It also discusses how representation differed depending on whether or not the authors were members of the Latinx community.

**Rachel~Anne Spencer. Creating Friendly Packets: Towards More Accessible Materials in Digital Literacy Instruction. A Master's Project for the M.S. in I.S. degree. April, 2019. 273 pages. Advisor: Paul Jones**

This Master's Project was centered around a redesign and usability test of instructional packets for the Community Workshop Series. The Community Workshop Series is a partnership between the School of Information and Library Science and three local public libraries, that allows students to teach digital literacy classes to community members. Packets that were created over the past 12 years were dense with text and around 20 pages long each. Six of the packets were redesigned to incorporate more visual elements, whitespace, and larger font, to make them easier for older adult learners to interact with.

**Elizabeth A. Stillwell. Digital Collection Evaluation: A Rubric for Holistic Evaluation. A Master's Paper for the M.S. in L.S. degree. May 2019. 50 pages. Advisor: Ryan Shaw**

Digital collections have been a rising trend in library sciences for over a decade. However, analysis of these collections has still largely been limited to the digital specialists and the digital humanists. This paper summarizes the existing evaluation literature to propose a tool for librarians to use for their own individual collections' evaluations. It also examines the difficulties of evaluation and emphasizes the need for further research into librarian conducted analyses, as their evaluations differ from the evaluations of an expert. It also explains the development of digitization, digital collections and digital evaluation until this point.

**Edward H Stocking** *Rarity Assessment in Law Libraries: A Survey of Criteria, Procedure and Qualifications. A Master's Paper for the M.S. in L.S degree. April, 2019. 26 pages. Advisor: Denise Anthony*

Researchers aimed to establish current criteria, procedure and qualifications for rarity assessment in law libraries through a survey of law school library staff. Seventeen librarians from relevant departments responded to the survey. While only about half of respondent institutions conduct rarity assessment, there is a degree of commonality to the criteria used in these assessments. Responses indicate that age and item status at sister institutions are the most common criteria in determining rarity. Survey responses also indicate that while rarity assessment is a task conducted by multiple staff members, little time is actually spent conducting assessments. Moreover, while respondents hold relevant, full-time staff positions and, in some cases, upper and middle management roles, very few have any formal education in rarity assessment.

**Katie Tirtanadi.** *Bewitched, Bothered and Bewildered: The Allure of Misinformation in a Postmodern Healthcare Age. A Master's Paper for the M.S. in I.S. degree. April, 2019. 52 pages. Advisor: Brian Sturm*

Misinformation is publicized as the next big public health crisis. Its exploitative nature allows it to both embed in seemingly legitimate facets of public discourse and disrupt public health initiatives. It collectively influences individual health decisions through a strategy of personal, message-oriented and emotional narrative. Utilizing the lens of vaccines, specifically the controversy surrounding the HPV vaccine in North Carolina, this study illuminates on health misinformation as an instigator of public conversation, vaccine hesitancy, and its subversion of evidence-based authority. This study provides a comparative analysis of both public and legislative perspectives, revealing a mismatch between the information needs of the public and the information written into state vaccine law. The findings

offer a preliminary step towards understanding how misinformation persists in the public sphere and affords insights into how public health can evolve to better encourage autonomous health decision-making, minimizing the influence misinformation holds over its audience.

**Faith D Wahlers.** *Availability and Range of Large Print Books for Children and Teens in North Carolina Public Libraries. A Master's Paper for the M.S. in L.S degree. April, 2019. 52 pages. Advisor: Mary Grace Flaherty*

Several studies have shown that large swaths of our younger patrons suffer from vision issues, and especially undiagnosed vision issues. Additionally, research has shown that large print books can help children with vision issues, like low vision and dyslexia. This study examined the catalogs of five of the best funded public libraries in North Carolina, searching for books labeled both as large print and for children and teens. The available items meeting this criteria did not meet the collection development policies set out by the libraries. Of the five total libraries surveyed, there were only 52 books that appeared when searching for large print and children or teens. Furthermore, adults make up 55-80% of the readership for YA books. For these reasons, large print versions of children and teen books should be collected.

**Mengnan Wang.** *Design and Implement a New Remote Web-Based Visualization System for the Clinical Examination and Treatment of Skin Lesions. Evaluate the System Based on Interview Feedback. A Master's Paper for the M.S. in I.S degree. April, 2019. 47 pages. Advisor: David Gotz*

In the field of dermatology research, researchers commonly take pictures of the skin lesion area with traditional cameras and measure its size over time to determine the effectiveness of the treatment process. To revolutionize this current practice, along with the help of an application that takes 3D captures and AR measurements, the proposed web-based visualization system follows user-centric design principles to clean, re-structure, process, and present the collected raw data in an intuitive, interactive, simplistic, and responsive manner. The system couples state-of-the-art modern web development with a secure and robust logical server through application programming interfaces (API) designed following best practices in the industry. An evaluation study with five participants was conducted to assess certain design choices of the system. Subjective feedbacks on the system were positive overall, with suggestions toward certain detailed aspects of the system that can be implemented in future development.

**Devon Waugh. Site Unseen: Website Accessibility Testing for Academic Libraries with Visually-Impaired Users. A Master's Paper for the M.S. in I.S degree. April, 2019. 67 pages. Advisor: Sarah Arnold**

Research was conducted to evaluate the accessibility at the University of North Carolina at Chapel Hill by having users with visual impairments answer questions about the use of the library website and use of assistive technologies in a questionnaire and following-up with a usability test. The usability test involved having participants complete tasks that were guided by a sample research question. Throughout the test, they navigated a database access page, a subject guide, and two databases to find research articles that related to the question. The resulting data indicated users preferred the organized layout of the database access page, but overall participants were frustrated with navigating the interfaces of databases, which varied in their design and delivery of accessible PDFs. Making changes to the database access page's code and structure also ensured that the page was accessible prior to confirming with participants in the testing environment.

**Courtney L Werner. The Role of Graduate-Level Archival Education in Preparing Archivists. A Master's Paper for the M.S. in L.S degree. April, 2019. 36 pages. Advisor: Denise Anthony**

This study describes a questionnaire survey of archivists currently working in their first professional position after graduating from an archival master's program. The survey was conducted to determine how prepared the archivists felt starting their current roles, the types of institutions archivists are working in, and what factors contributed to feelings of preparedness. The survey responses demonstrated the range of opinions and experiences of archivists who have graduated from programs throughout the country. The levels of preparedness felt by archivists vary, but generally show that most feel prepared enough to transition from student to professional archivist after graduating from an archival master's program.

**Gina Wessinger. Readers' Advisory in the Public Library: A Look at the Promotion of Diverse Literature to Teens. A Master's paper for M.S. in L.S. degree. April, 2019. 35 pages. Advisor: Sandra Hughes-Hassell**

Teens are reading, and libraries are helping teens read. One way that libraries are helping teens read is through readers' advisory, the recommendation of books to readers for the purpose of pleasure reading. In the library field, there is a recognition of the need for diverse literature and its positive impacts. This study investigates the perspectives

of librarians and library staff on readers' advisory, with special attention to the promotion of diverse literature. Interview data and document analysis showed that librarians are performing readers' advisory often, and teens are taking advantages of the different advisory opportunities provided by the libraries. The librarians view diverse literature as valuable and do promote it, though none cited promoting diverse literature as a guiding principle in readers' advisory.

**Caitlin White. The Perception and Purpose of Archival Power as Viewed by State Records Appraisers in Comparison to Theoretical Literature. A Master's paper for the M.S. in L.S. degree. April, 2019. 49 pages. Advisor: Helen R. Tibbo.**

This paper describes how archival power has been understood in terms of archival appraisal from the creation of the proto-archive to modern institutions. Archival theorists have emphasized the importance of archival power and the recognition of it by practicing archivists. A short series of interviews with practicing archival appraisers in southeastern state government records archives was conducted to understand the practical perspective of archival power.

The three appraisal archivists did agree that they had power, although they agreed that there were limits to it. This is in contradiction with the archival theorists who seem to suggest that the archivists have not realized the power that they possess. The archivists believed that their power should be used for the public good, a sentiment echoed by the theorists.

**Steven S. Wilcer. Preserving Performance and Purpose: An Audio and Audiovisual Digitization Cross-Analysis within the Performing Arts. A Master's Paper for the M.S. in L.S degree. April, 2019. 52 pages. Advisor: Denise Anthony**

This study explores the topic of audio and audiovisual digitization as it pertains to the performing arts. Three fields in the performing arts—music, dance, and theater—were selected to examine the digitization challenges from a more interdisciplinary perspective. Specialists involved with organizations active in performing arts digitization were consulted regarding their experiences and workflows using questionnaires and interview sessions.

The subject sessions revealed similar concerns and hurdles existing between each of them while being influenced by different organizational and personal priorities. The subjects emphasized a strong need for coordination and networking between specialists to ensure effective digitization and

preservation. They also recognized similar areas of concern, such as copyright and ownership of materials and degradation of magnetic tape media formats.

**Hayley Wilson. March for Archives: An Examination of Five Different Institutions and Their Collecting Efforts of Material from the March for Our Lives protests. A Master's Paper for the M.S. in Library Science degree. March, 2019. 52 pages. Advisor: Denise Anthony**

This study describes the collecting efforts by five different institutions across the United States of material from the March for Our Lives protests that took place in March of 2018. Interviews were conducted with staff at each of the following institutions: The North Carolina Collection Photographic Archives at the University of North Carolina at Chapel Hill, Nashville Public Library's Special Collections, University of Southern California's Special Collections, Parkland Historical Society in Parkland, Florida and a government archive in Florida. The interviews highlighted how limited resources such as lack of funding and staff effect the ways in which institutions are collecting material from protests and current events across the country, the different types of material that is being collected, the manner in which these items are accessioned as well as the appraisal criteria. These findings can help archivists, historians, librarians and other information professionals better understand the variety of issues that exist regarding collecting from protest movements.

**Lu Xu. A Visual Analysis of EHR Flowsheet to Assist Clinicians' Interpretation of Health-related Data. A Master's Paper for the M.S. in I.S degree. April, 2019. 32 pages. Advisor: David Gotz**

This project designed and implemented visualization interface of EHR Systems based on the requirements of the doctors. The visualizations combined both clinic-reported data and patient self-reported data to provide a better representation of patient health related information for the doctor to make decisions. The visualizations highlighted the trend of values, the outliers and make it possible to compare across time and measures. The user study of ten participants suggests that the visualization interface helped them find the information in an efficient way.

**Zhen Xu. Visualizing Patient's Health Records in Clinical Decision Support System. A Master's Paper for the M.S. in I.S degree. May, 2019. 43 pages. Advisor: Robert Capra**

Clinical Decision Support System (CDSS) is a system that can provide positive support for clinicians, including

avoiding medical errors, aiding decision-making, and improving the quality of medical care. As the vital evidence of decision-making process, Patient-level information plays an important part in this system. However, due to extensiveness and complexity of patient data, how to intelligently and automatically summarize patient-level information remains one of the top-ranked challenges. One solution is using data visualization to provide effective summarized report of patient-level information. This paper analyzes why this is a top-ranked challenge, how data visualization help solve the issue, and provides a design of interactive data visualization for patient-level information. Many features and components in this visualization are explored and evaluated.

**Harish Yadav. Development of a Course Recommender System for Students. A Master's Paper for the M.S. in I.S degree. May, 2019. 69 pages. Advisor: Dr. Stephanie W. Haas**

Students at the university have an information need to find the courses of their interest. The current university registration portals do not fulfill this information need completely. We have proposed the development of a recommender system which can take a course name and based on the description of that course recommend other courses to students. The recommended course list could help save time and effort for students registering for courses. The proposed system was trained with sample data collected from the course catalog of the University of North Carolina at Chapel Hill. We tested the recommender system with different courses as input and evaluated the resulting recommended courses.

**Yu Yuan. An Exploration of User Engagement With a Search Assistance Tool in Different Positions on a SERP. A Master's Paper for the M.S. in I.S degree. April, 2019. 60 pages. Advisor: Robert Capra**

This study aimed to explore the difference in user engagement with a search assistance tool in different positions on a SERP. A usability study with eye-tracker was conducted in a lab environment. Overall, there were 12 subjects participated in this study, each of them was asked to perform two tasks on a search system with a search assistance tool placed in two positions. Qualitative data collected from retrospective interview and quantitative data gathered from questionnaires, eye-tracking system and custom log system were analyzed to investigate the position effect. The results in this study showed that the search assistance tool placed in the middle is easier to get noticed while people are more likely to pay attention to it and use it when the search

assistance tool is placed on the right side of the page. Also, the source authority and the information foraging theories like Camouflage Links, Banner Blindness have impacts on the use of the search assistance tool.

**Mackenzie S. Zalin. Measuring the Applications of the Subject Doctorate to Academic Librarianship in North America. A Master's Paper for the M.S. in L.S degree. March, 2019. 54 pages. Advisor: Mary Grace Flaherty**

This work records and discusses the results of an anonymous web-based survey administered in January and February of 2019 to academic librarians with subject doctorates (i.e. PhDs in disciplines outside of library and information science) employed in North America. Respondents answered a mixture of quantitative and qualitative questions about the fields of their PhDs, their MLSs or equivalent degrees, their current positions in academic libraries, and the relevancy of their doctoral training to their current positions. According to the principal finding of this study, a majority of those librarians surveyed apply their doctoral training directly to their current positions in academic libraries, albeit at lower rates than those observed in the preceding decade. Statistically significant correlations were found between the relevancy of respondents' doctoral training to their current positions, the accreditation status of their MLS or equivalent, and the year they began their current positions.

**Zhepu Zhao. A comparison study: Comparison Between Different Classifiers for Emotion Classification Using Real Human-to-Human Chat Log Dataset. A Master's Paper for the M.S. in I.S degree. April, 2019. 41 pages. Advisor: Jaime Arguello**

In the field of emotion classification in natural language processing, researches usually concentrate on the datasets which are more academic and formal like Stack Overflow and general reviews on products or ideas like Tweeter and Amazon, but lack analysis in datasets which come from real, private, human-to-human chat logs or oral conversation. For this study, we implemented four types of commonly used classifier with a dataset which consists of both text from chat logs and oral conversations that are transformed into script. Meanwhile, we analyzed the performance of different classifiers across these two types of datasets. Specifically, we used BOW (Bag of words) and its extended version considering TF-IDF for future analysis. We found that the performance of the logistic regression does not depend too much on the dictionary size of BOW and all four types of classifiers perform better in text from user's typing than in text transformed from oral conversations.

**Yiling Zheng. How Medical Students Perceive Learning Anatomy with a Virtual Reality Program: Virtual Medicine, Compared to Traditional Learning Approaches. A Master's Paper for the M.S. in I.S degree. April, 2019. 47 pages. Advisor: Bradley M. Hemminger**

As a fundamental subject, anatomy has been an essential and must course for students in health science fields. VR emerges as a powerful technique for experiencing a virtual world. Nowadays, there are attempts trying to combine virtual reality with anatomy education, to have a thorough understanding of anatomy and to take advantage of this technology, this research was conducted to examine the perceptions of medical students about learning anatomy with Virtual Reality (VR), which could provide students with an immersive environment, compared to the methods they have previously used.

By inviting participants to come to the VR room and use the program themselves, this study used a mix-methods design, with a focus on the qualitative side in order to learn more about subjects' thoughts and thus provide an angle for the potential improvement of VR technology applied to education in the future. Three sets of data were collected from the beginning to the end of each 35-minute test sessions, including observed behaviors, test score and individual test. Results of the study shows the general opinions of students and implies that VR technology applied to anatomy could be very promising and positive.

**Zheyong Zhou. Predicting Online Customer Reviews Helpfulness Using Readability, Review Rating, and Reviewer Features. A Master's Paper for the M.S. in I.S degree. May, 2019. 33 pages. Advisor: Stephanie W. Haas**

Online review is widely used in online markets to help customers make their purchase decisions. The rapidly growing volume of reviews brought a challenge for businesses to analyze their content and provide the most helpful reviews to their customers. Using data from online book reviews at Amazon.com, I build predictive models using readability, review rating and reviewer features. I find that rating and readability do not have a direct significant impact on review helpfulness. However, reviewer information does have direct impact on review helpfulness. This suggests that reviews from reviewers who wrote helpful reviews in the past are more likely to be helpful to other customers. Based on these findings, online marketers could predict review helpfulness and rank reviews, which could benefit both vendors and consumers.