Jiaqi (Ella) Li

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Education

University of Michigan Ann Arbor, MI, U.S.
M.S. in Information Science 2021 – 2023
Selected Courses: Online Communities, Interaction Design, Data Manipulation and Analysis, Applied Machine Learning, Data Mining, Natural Language Processing

University of Liverpool Liverpool, U.K.
B.S. (Hons) in Applied Mathematics 2015 – 2019
Selected Courses: Mathematical Analysis, Probability and Statistics, Applied Stochastic Models, Multi-variable Calculus, Linear Algebra

Publication

Peer-Reviewed Papers

Chi-Yun Chang, Jiaqi Li, Shivangi Kumar, and V.G. Vinod Vydiswaran. 2023. Exploring transformer-based models for dialogue2topic classification. *CLEF '23.* [PDF]

Under Review Manuscripts

Paramveer Dhillon, Somayeh Molaei, Jiaqi Li, Maximilian Golub, and Lionel Robert. 2024. Human-AI Collaborative Writing [title modified to ensure anonymous review]. *Submitted to CHI '24 (R&R)* [PDF of the parts I contributed to]

Manuscripts in Submission Process

Jesse Johnston and Jiaqi Li. 2024. Encoding Reparative Description: Developing Tools to Analyze Problematic Finding Aids. *Submit to Code4Lib, Proposal Accepted*

Manuscripts Under Preparation

Jiaqi Li, Zhan Zhang, Prashant Mahajan, and Sun Young Park. 2024. Improving the Diagnostic Process in the Emergency Room through Participatory Design. *Will Submit to JMIR in January 2024*

Jiaqi Li, Jeff Sheng, and Cliff Lampe. 2024. Chinese Queer People's Online and Offline Experiences and Identity Dynamics. *Aim to submit in early 2024.* [Thesis Draft PDF]

Research Experience

Exploring the Role of Technology in Mental Health Management for Individuals with Low Socioeconomic Status (SES) and Serious Mental Illness
University of Michigan School of Information *2023.5 – Ongoing*
Advisors: Alicia K. Williamson, Dr. Tiffany C. Veinot

- Conducted open coding, created code books, and performed thematic analysis of field notes from four mental health court observations, as well as data from three stakeholder interviews.
- Developing models to demonstrate how technology enhances mental health care access and coordination for low SES patients, enabling tailored use and informing policy decisions.

Exploring How Different Levels of Support from Large Language Models (LLMs) Influence the Collaborative Writing Process *[Under R&R at CHI 2024]*
University of Michigan School of Information *2023.2 – 2023.9*
Advisors: Dr. Paramveer Dhillon, Dr. Lionel Robert, Dr. Somayeh Molaei

- Evaluated and pre-screened 453 candidates, led 24 live argumentative writing sessions (field experiments) involving 131 participants; Developed Python scripts for database extraction and data preprocessing; Authored the Related Work, Methods sections, as well as all figures, tables, and appendices in the submitted paper.

- Contributed to the implications for designing human-AI co-writing systems and user-tailored scaffolding strategies.

Exploring Transformer-based Models for Clinical Note Topic Classification
University of Michigan School of Information *2023.1 – 2023.7*
Advisor: Dr. VG Vinod Vydiswaran

- Conducted data preprocessing and feature extraction; implemented and improved machine learning and deep learning models, including ClinicalBERT, Logistic Regression, and Continuous Bag-of-Words (CBoW).

- Tuned and enhanced model performance using oversampling, refined feature extraction, and keyword sets, achieving a high accuracy of 0.765.

- Led qualitative analysis on results and the writing for paper submission. *[Paper Accepted]*

Chinese Queer (Community): Online and Offline Lives, Identity, and Challenges
University of Michigan School of Information - (Thesis) *2022.10 - Ongoing*
Advisors: Dr. Jeff Sheng, Dr. Cliff Lampe

- Formulated research questions and developed a concrete research design.

- Designed interview protocols and survey questions, and submitted an IRB application.

- Recruited and interviewed 15 (out of 120) participants for qualitative data analysis, including open coding and thematic analysis. *[About to Submit Paper in early 2024]*

Emergency Department (ED) Diagnostic Process Support *[About to Submit Paper to JMIR]*
University of Michigan School of Information *2022.6 - Ongoing*
Advisors: Dr. Sun Young Park, Dr. Zhan Zhang, Dr. Prashant Mahajan

- Explored ways to reduce diagnostic errors in Emergency Departments (ED) and examined how health information technology can enhance the diagnosis process in EDs.

- Designed intervention ideas and participatory design (PD) study sessions; recruited participants both in the ED and via phone; facilitated 10 PD sessions, both virtual and in-person, with providers, patients, and caregivers.

- Conducted qualitative data analysis of 14 PD sessions, which included open coding, creating affinity diagrams, and performing thematic analysis; led the the paper for submission.

- Identified key areas for improving the diagnostic process, assessed providers' technological needs, and contributed to designing implications for health information technology design and implementation in ED settings.

Reparative Description in Data Curation *[Proposal Accepted by Code4Lib]*
University of Michigan School of Information *2022.6 – 2023.8*
Advisor: Dr. Ricky Punzalan, Dr. Jesse Johnston

- Explored harmful language in the metadata of social science data repositories to develop practices for reparative programs.

- Compiled categorized bibliography; created a 250-word term set using existing thesauri and guidelines, to audit harmful language and summarized statistical findings.

- Developed automation tools using Python to remediate and analyze harmful description in 247 finding aids pertaining to Philippine collections at UM.

- Published preliminary code and documentation on GitHub; currently drafting a paper for submission.

- Identified areas where automation can support reparative description work. Highlighted the significance of descriptions in creating and remediating harm, shaping historical understandings, and emphasized the importance of continually monitoring and maintaining metadata for accuracy and ongoing cultural sensitivity.

Exploring Perceptions and Expressions of Body Image Among Chinese Women on Social Media

Duke Kunshan University *2021.7 - 2021.9*

Advisors: Dr. Xin Tong, Dr. Zhicong Lu (Caleb)

- Explored Chinese women's feelings and expressions about themselves and their awareness of negative body image by observing and analyzing data from the social media Weibo.

- Conducted literature reviews, formulated the research question and the research design. Utilized validated Body Image Assessments (BIDQ) and designed the survey for data collection. Scraped social media data using specific keywords and implemented initial data analysis.

The Rehabilitation Status of COVID-19 Infected Patients

The U.S.-China Health Summit Research Team, Harvard University *2020.7 – 2020.10*

Advisors: Dr. Jing Ma, Dr. Guangyu Zhou

- Conducted a literature review covering topics such as long COVID-19, its risk factors, cardiac impacts, rehabilitation measures, and comparisons to similar infectious diseases.

- Contacted potential patient communities and database providers for data collection; Drafted a manuscript.

Industry Experience

Data Scientist (Intern) Stable Group Ltd., London, U.K. 2019.7 – 2019.9

Data Scientist (Intern) AlgoLib Ltd., Liverpool, U.K. 2018.12 – 2019.4

Project Experience

Online Community Study r/AskWomen *2023*

Instructor: Dr. Nazanin Andalibi

- Exploring the unique challenges and opportunities presented by this digital space, with a focus on how people support other members, the topics of discussion, and community engagement; Conducted observations over the span of two weeks and analyzed findings using affinity mapping.

My Polycystic Ovarian Syndrome (PCOS) Journey [UX Research and Design] *2023*

Instructor: Dr. Nazanin Andalibi

- Designed a supportive app for individuals with PCOS, providing group connections, anonymous posting, direct access to medical experts, and personalized, credible resources such as articles and videos. This app emphasizes menstrual and mental health, fostering a community-oriented and informative environment.

- Improved design for information sharing and organization, with embedded trackers, effective moderation, and content control, aimed at building community trust and ensuring privacy.

"Me+You" App: Dedicated to Physical and Mental Well-Being [UX Design] *2022*

Instructor: Dr. Nazanin Andalibi

- Designed a self-help app to enhance daily communication and social connection, support exercise routines, and strengthen community bonds. Highlighted features include teaming up, progress tracking, a gamified process with rewards, music, and meditation, among others.

How People Express Opinions About LGBTQ+ Topics on Twitter [Data Mining] *2022*
Instructor: Dr. Paramveer Dhillon
- Executed comprehensive data analysis, including pre-processing, exploratory data analysis (EDA) (correlation, sentence length and word count, posting time, etc), sentiment analysis, and key theme extraction using Latent Dirichlet Allocation (LDA).

Heart Disease Prediction [Machine Learning] *2022*
Instructor: Dr. Grant Schoenebeck
- Leveraged 2021 CDC's BRFSS Survey Data to forecast heart disease by utilizing and fine-tuning various machine learning and deep learning models, incorporating techniques such as exploratory data analysis (EDA), correlation analysis, data visualization, encoding and scaling.

Customized Keyboard Design: Enhancing Typing Speed and User Experience *2021*
Instructor: Dr. Nikola Banovic
- Studied the existing issues with tablet virtual keyboards, re-designed a customized virtual keyboard tailored (adjustable keyboard size, key spacing, and key positioning) to user preferences in various contexts, and achieved an improvement in user typing speed.
- Executed an initial survey (n=61), contextual inquiry, low and high fidelity interactive system prototyping, heuristic evaluation, and user testing (n=16), culminating in a detailed technical HCI project paper.

Data Science Projects on Kaggle *2018 - Present*

China Undergraduate Mathematical Contest in Modeling (CUMCM) Third Prize *2017*

Teaching

AlgoCamp: Introduction To Python, Teaching Assistant 2019

Academic Services

Paper Reviewing: CLEF 2023
Student Volunteer: CSCW 2022 (virtual)

Grant and Scholarship

James S. Jackson Award for Diversity: Art & Design Competition Stipend - *$350* 2023
UMSI Master's Thesis Research Grant - *$940* 2023
W&M Graduate Symposium Award Travel Grant - *$500* 2023

Community Program

2022 ACM Trans/Queer in HCI 1-1 Mentoring Program - *Mentor: Dr. Michael Ann DeVito*
2021 ACM Trans/Queer in HCI 1-1 Mentoring Program - *Mentor: Dr. Alexandra To*
Google CS Research Mentorship Program (CSRMP) - 2022B - *Mentor: Dr. Ahmad Beirami*

Skills

Computing: Python, R, MySQL, Git, Statistical Analysis, Front-End Development (JavaScript, HTML, CSS); Pandas, Numpy, SciPy, Matplotlib, Plotly, Seaborn, Statsmodels, Dask, Spark, NLTK, spaCy, Gensim, XGBoost, Pytorch, Scikit-Learn, Tensorflow, Keras, LSTM, BERT, lxml, ElementTree, BeautifulSoup, etc
Research: Survey, Interview, Observation, Contextual Design, Usability Testing, Experiments, Participatory Design, Community-Based Participatory Research (CBPR), Experimental Design, Open Coding, Affinity Diagram, Thematic Analysis, Content Analysis
Tools: Overleaf, Zotero, Nvivo, Dedoose, Qualtrics, Google Forms, UX Design Tools (Figma, Miro, Lucidspark)

Leadership Activities

Center for Ethics, Society, and Computing (ESC) Graduate Student Researcher 2022
Michigan Institute for Data Science (MIDAS) Student Leadership Board Member 2022

	The RELATE Communication Fundamentals Workshop - University of Michigan	2022
	Outstanding Trainee of Google Digital Marketing Talent Training Program - Google	2020
	General Committee of STEM Women Club - University of Liverpool	2018

Volunteering

	Technical Volunteer of Beijing LGBTQ+ Center	2021
	Volunteer of AI TIME - Tsinghua University	2020
	Volunteer of LendIt Fintech Conference - Shanghai, China	2018
	Volunteer of Edinburgh Hogmanay Children Cancer Research - Edinburgh, U.K.	2017