Alice Qian Zhang

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RESEARCH INTERESTS

Responsible Artificial Intelligence (RAI), Content Moderation, Mental Health, Marginalized Populations, Social Computing

EDUCATION

Carnegie Mellon University, Pittsburgh, PA, USA — August 2024 - In Progress
Doctor of Philosophy

University of Minnesota, Minneapolis, MN, USA — September 2020 — May 2024
Bachelor of Science in Computer Science — Cumulative GPA: 3.867/4.00

RESEARCH EXPERIENCE

Research Assistant, Advisors: Dr. Stevie Chancellor and Dr. Jina Suh — Minneapolis, Minnesota
University of Minnesota — September 2023 — Present
Responsible AI Crowdworker Support: Co-designing Risk Disclosure

- Manually scraped 1000 Amazon Mechanical Turk Human Intelligence Tasks (HITs)
- Qualitatively coded and labeled HITs based on the type of psychological risk disclosed (i.e. profanity, violence)

Research Assistant, Advisor: Dr. Stevie Chancellor — Minneapolis, Minnesota
University of Minnesota — September 2022 — Present
#Pragmatic or #Clinical: Analyzing TikTok Mental Health Videos

- Adapted unofficial TikTok API to source video and metadata from 19,000+ TikTok posts on mental health by altering Python module code
- Cleaned TikTok post metadata accounting for consistency with encoding, hashtags, and video descriptions
- Conducted feature analysis on 169 hand-labeled videos on descriptive features (i.e. video, textual, creator and author features) and engagement features (i.e. number of likes, plays, shares, and comments)

Research Intern, Advisors: Dr. Jina Suh and Dr. Judith Amores — Redmond, Washington
Microsoft — May 2023 — September 2023
AURA: Amplifying Understanding, Resilience, and Awareness for Responsible AI Content Workers and Red Teamers

- Conducted and analyzed survey of 67 responses and semi-structured interviews with 22 content moderators, data labelers, and red teamers from various organizations to understand challenges content workers face in Responsible AI
- Developed a set of 8 evidence-based recommendations on holistic support for the wellness of content workers in the responsible artificial intelligence space
- Planned and conducted workshops with 14 participants to validate and iterate on recommendations

Research Assistant, Advisor: Dr. Shagun Jhaver — New Brunswick, New Jersey
Rutgers University — January 2023 — July 2023
Cleaning Up the Streets: Understanding Motivations, Mental Models, and Concerns of Users Flagging Social Media Posts

- Conducted 22 semi-structured qualitative interviews with active social media users to examine user experiences with social media flagging interfaces
- Applied interpretative qualitative analysis through open-coding interviews with multiple iterative rounds

Research Assistant, Advisors: Dr. Amy Zhang and Dr. Shagun Jhaver — Seattle, Washington
University of Washington — June 2021 — September 2021
Personalizing Content Moderation on Social Media: User Perspectives on Moderation Choices, Interface Design

- Implemented Python scripts to source 160,000+ Twitter posts from JSON and CVS files
- Created mock social media user interface with slider, toggle, and word filter features
- Conducted and analyzed 24 semi-structured qualitative interviews to understand end-user preferences for and mental models of personalized content moderation

Youth Studies Research Assistant, Advisor: Dr. Ross VeLure Roholt — Minneapolis, Minnesota
University of Minnesota — September 2020 — May 2022
Exploring Equitable and Community-Building Practices for Youth Leadership in Nonprofit Spaces

- Examined the skills and experiences necessary for peer facilitators and created a curriculum for youth facilitators
- Published reflections about online education practices in youth programming and university settings

PUBLICATIONS

[1] Shagun Jhaver, Alice Qian Zhang, Quan Ze Chen, Nikhila Natarajan, Ruotong Wang, and Amy X Zhang. Personalizing content moderation on social media: User perspectives on moderation choices, interface design, and labor. *Proceedings of the ACM on Human-Computer Interaction*, 7(CSCW2):1–33, 2023.

[2] Alice Qian Zhang. Youthbank online, a snapshot, Dec 2021. URL: `https://youthprise.org/blog/guest-blog-youthbank-online-a-snapshot/`.

[3] Alice Qian Zhang. Youthbank online, collaboration, Dec 2021. URL: `https://youthprise.org/blog/guest-blog-youthbank-online-collaboration/`.

[4] Alice Qian Zhang, Ashlee Milton, and Stevie Chancellor. # pragmatic or# clinical: Analyzing tiktok mental health videos. In *Computer Supported Cooperative Work and Social Computing*, pages 149–153. 2023.

[5] Alice Qian Zhang, Kaitlin Montague, and Shagun Jhaver. Cleaning up the streets: Understanding motivations, mental models, and concerns of users flagging social media posts. *arXiv preprint arXiv:2309.06688*, 2023.

[6] Alice Qian Zhang, Jina Suh, Judith Amores, Mary Gray, and Mary Czerwinski. Aura: Amplifying understanding, resilience, and awareness for responsible ai content workers and red teamers. To be submitted to 2024 ACM Conference On Computer-Supported Cooperative Work And Social Computing, 2024.

GRANTS, AWARDS, AND HONORS

Hopper-Dean Scholarship   2023
Funding Amount: $6,250
College of Science and Engineering Alumni Society Scholarship   2023-2024
Funding Amount:$5,000
Optum Scholarship   2022-2023
Funding Amount: $5,000
Iron Range Scholarship   2020-2024
Funding Amount: $10,618
Lee S Whitson Scholarship   2020-2024
Funding Amount: $10,000
John and Isabel Campbell Scholarship   2020-2024
Funding Amount: $8,000
Morton S Katz Scholarship   2020-2024
Funding Amount: $4,000
U Promise Scholarship   2020-2024
Funding Amount: $2,134
Rotary Scholarship   2020-2021
Funding Amount: $3,000
Northfield Lion's Club Scholarship   2020-2021
Funding Amount: $1,000
Academic Dean's List Honors   2020-2024

INDUSTRY EXPERIENCE

Software Engineer Intern   Charlotte, North Carolina
Teachers Insurance and Annuity Association of America   June 2022 — August 2022

- Developed advanced site functionality and conceptualized next generation user interface prototypes with Angular to automate 80% of client experience with changing investment lineups
- Shared development responsibilities of development with agile team following Scaled Agile Framework

IT Infrastructure Specialist   Minneapolis, Minnesota
University of Minnesota   March 2021 — May 2022

- Led initiative to upgrade 18 research virtual machines for Grouplens research group
- Coordinated software and security upgrade for 255 University Integrated Dell Remote Access Controller (iDRAC) servers
- Coordinated reboot of 100+ university machines
- Configured automated management of 250+ Linux virtual machines using infrastructure tool Foreman and writing Puppet software for academic and research uses
- Documented university approved processes for decommissioning and managing virtual machines

Growth Marketing Intern   San Francisco, California
Candor   February 2021 — September 2021

- Researched and wrote 6 articles on the technology industry with 100% acceptance rate
- Utilized Search Engine Optimization (SEO) tool Clearscope to obtain A+ SEO grade on all articles written

TEACHING EXPERIENCE

Introduction to Undergraduate Research in Computer Science   University of Minnesota
Teaching Assistant   January 2023 — May 2023

- Facilitated 30+ students' weekly explorations of research career pathways through providing assistance in drafting emails to faculty and structuring research proposals

Exploring Algorithms and Data Structures   University of Minnesota
Teaching Assistant   September 2022 — December 2022

- Assisted class of 30+ students in weekly problem solving activities involving Java basics, classes and inheritance, data structures, search, and sorting

Introduction to Algorithms and Data Structures   University of Minnesota
Teaching Assistant   January 2022 — May 2022

- Designed 14 weeks of curriculum teaching object-oriented program principles and data structures in Java
- Supervised 35+ student lab sections, conducted weekly office hours for 230+ student courses, and graded using JUnit automated testing

Introduction to Computing and Programming Concepts   University of Minnesota
Teaching Assistant   January 2021 — May 2021

- Designed 14 weeks of curriculum teaching core programming concepts such as loops, classes, and inheritance in Python
- Supervised 35+ student lab sections, conducted weekly office hours for 150+ student courses, and graded Gradescope

Teaching Assistant Training   University of Minnesota
Computer Science Department   January 2022 — May 2022

- Completed 7 week course on conducting office hours and designing course curriculum
- Completed 4 semesters of implicit bias training course modules

VOLUNTEER AND LEADERSHIP EXPERIENCE

President   Minneapolis, Minnesota
Association for Computing Machinery - Women   May 2023 — Present

- Organized 2 events per month to connect women in computing to opportunities in industry and academic (e.g. resume workshop)
- Managed and submitted club expenses budget of approximately $10,000 for approval with computer science department
- Coordinated the renovation of a new club room, including collaboratively designing and ordering furniture such as cabinets, couches, and desks

Editor-in-Chief   Minneapolis, Minnesota
MURAJ (Undergraduate Student Research Publication)   May 2023 — Present

- Reviewed 120+ applications and collaboratively decided to hire 82 undergraduate peer reviewers for student research journal
- Peer-reviewed 30+ undergraduate student research manuscripts to publish in student research journal

Webmaster   Minneapolis, Minnesota
Association for Computing Machinery - Women   May 2022 — May 2023

- Redesigned club website on drupal7 to be more accessible
- Reconstructed club mission and vision to clearly communicate that the club welcomes women, gender non-conforming individuals, and allies of all backgrounds into a safe and supportive computing community

Co-Founder   Salatiga, Indonesia
Carene-id (Nonprofit Literacy Project)   February 2021 — September 2022

- Developed 10 weeks of English literacy curriculum for students ages 6-12 as a supplementary education service
- Directed a leadership team of 30+ from 120+ applicants for fundraising, marketing, and tutoring operations
- Managed an international and remote team of 12 tutors, web designers, and graphics designers

Technical Content Team Lead   Allston, Massachusetts
Foundation for a Human Internet (humanID)   April 2021 — June 2021

- Trained and interviewed 8 new writers and published 11 articles
- Authored 50+ pages of company documentation for Technical Content Team roles and style guidelines

Technical Content Writer   Allston, Massachusetts
Foundation for a Human Internet (humanID)   February 2021 — April 2021

- Authored 4 articles, each 1000-1500 words ranking up to first in SEO Google search results
- Edited 8+ articles that had a 100% publish rate on the company website

Undergraduate Student Mentor   Minneapolis, Minnesota
College of Science and Engineering Student Ambasssadors Program   September 2021 — May 2023

- Advised four undergraduate STEM students on academic success and career exploration over the course of 9 months
- Prepared custom-timelines and compiled advice for course registration and internship applications

Marketing Lead   Allston, Massachusetts
Google Developers Student Club   September 2021 — October 2021

- Designed and managed weekly marketing communications for club on Instagram, Facebook, Website, LinkedIn, and paper posters
- Implemented marketing schedule of posting 1-3 times on all platforms per week to promote event attendance
- Captured moments at bi-monthly events through photography

Developmental Coordinator   Allston, Massachusetts
Charosa (Biomedical Engineering Student Research Group)   January 2021 — October 2021

- Facilitated connections between undergraduate students and research opportunities by organizing monthly events with invited faculty and industry professionals

Youth Philanthropy Intern   Minneapolis, Minnesota
Youthprise   June 2020 — August 2020

- Co-created curriculum content for a 12-week summer program, YouthBank Online
- Facilitated a group of 12 youth to grant out $25,000
- Managed a small group of 3 youth for 15 meetings and facilitated youth through a grant-making cycle
- Built a community among a group of 12 young people and maintained relationships

Founder   Northfield, Minnesota
Local Girls Who Code Chapter   January 2020 — August 2020

- Recruited and managed leadership team of 5 club officers including graphic designer, marketing, and outreach
- Coordinated introductory events on computer science principles and career exploration with 30+ member attendance

Assistant Skating Coach   Northfield, Minnesota
Northfield Skating Club   August 2016 — June 2019

- Instructed fundamental figure skating skills to children aged 4-15
- Developed 30-minute lesson plans for classes of 15+ students Taught children ages 4-15 basic figure skating skills
- Achieved training and certification to teach basic figure skating skills to individuals of all ages

PROJECTS

InnerVoice: Empathetic Journaling for Self-Compassion   Fall 2023
Human-AI Interaction

- Designed a two-phase study to develop an AI-based empathetic journaling tool to improve college students' self-compassion
- Conducted 6-9 semi-structured qualitative pilot interviews to develop prototype of interface
- Constructed second phase to include two-week diary study to evaluate prototype

Selection and Manipulation in Virtual Reality   Fall 2023
Virtual Reality and 3D Development

- Implemented bimanual VR interaction technique in two controllers are used to define a virtual spindle that can be used to select and manipulate objects

FridgeWizard Food Tracking Application   Spring 2023
User Interface Design

- Developed a prototype of a food-tracking mobile application utilizing Android Studio in collaboration with a team of 5 students
- Iterated through the four stages of the UX design process beginning with conducting user interviews with college students

Full Stack Website Deployment   Spring 2022
Internet Programming

- Developed a website with server-side Python and HTML, CSS, JS on the front-end with jQuery, ReactJS, Bootstrap frameworks
- Managed databases with SQL and deployed the site to Amazon Web Services

Drone Simulation   Spring 2022
Program Design and Development

- Developed and extended features, including multiple types of transportation, vehicle availability, and multiple passenger functionality for a full-stack drone simulation application using C++ and practicing Agile over 14 weeks

ELIZA   Spring 2022
Natural Language Processing

- Designed chat program to carry basic conversation with users about their mental well-being using regular expressions

Spellchecker   Spring 2022
Natural Language Processing

- Implemented minimum-edit-distance algorithm to create a program that provides spelling change suggestions for a given text document

Spectrogram   Spring 2022
Natural Language Processing

- Implemented minimum-edit-distance algorithm to create a program that provides spelling change suggestions for a given text document

Faciliation for Youthwork   Spring 2022
Teaching Methods in Higher Education

- Developed full course curriculum on facilitation practices for adults doing nonprofit youth work in partnership with Dr. Alex Fink and Dr. Ilene Dawn Alexander

Performance Optimization Study in C   Fall 2021
Machine Architecture and Organization

- Optimized the implementation of a 2D array squaring algorithm for various input sizes by 70%, utilizing knowledge of processor pipeline and memory hierarchy
- Analyzed and benchmarked the performance of linear and binary search algorithms for array, tree, and linked list implementations in C

Hash Table Implementation and Collision Prevention Analysis   Spring 2021
Intro. Data Structures and Algorithms

- Developed unique hash table implementation for known and unknown data and evaluated 3 methods to mimic key collisions in Java

CONFERENCES AND WORKSHOPS

Computer Supported Collaborative Work (CSCW)	Minneapolis, Minnesota
Presented poster publication and second-authored accepted full paper	October 2023
We Give Youth Philanthropy Summit	Virtual
Presented about the benefits of supporting youth philanthropy	2020-2022
Grace Hopper Celebration	Virtual
University of Minnesota Attendance Scholarship Recipient	2021-2022
Minnesota Social Service Association	Virtual
Presented about the benefits of supporting youth leadership and community engagement	2022
Harvard WeCode	Virtual
Attendee	2021-2022
Rewriting the Code Career Summit	Virtual
Attendee	2022
Rewriting the Code Technology Interview Intensive Program	Virtual
Participant	2022

Meta Above and Beyond Computer Science (ABCS) Program	Virtual
Participant	2022
Richard Tapia Conference	Virtual
Attendee	2021

PROFESSIONAL MEMBERSHIP

Louis Stokes North Start STEM Alliance Program	
Scholar	2023-2024
Association for Computing Machinery-Women	
Member	2022-2024
Discover University of Chicago Prospective Graduate Student Visitation Program	
Attendee	2023
Emory University Laney Graduate School Prospective Graduate Student Visitation Program	
Attendee	2023
National Name Exchange	
Participant	2021-2024
University of Illinois Urbana-Champaign Grainger Engineering Prospective Graduate Student MERGE Visitation Program	
Scholar	2022
University of Minnesota First Year Leadership Institute	
Scholar	2021

SELECTED SKILLS

Selected Coursework

- Collaborative Social Computing
- User Interface Design
- Virtual Reality and 3D Interaction
- Human-Centered AI
- Natural Language Processing
- Program Design and Development
- Ethics in Science and Technology
- Online Learning Communities
- Educational Psychology and Human Development Research Methods
- Teaching Methods in Higher Education
- Probability & Statistics

Programming Languages

- Python
- Java
- C++
- C
- JavaScript
- TypeScript
- PHP
- OCaml

Tools and Frameworks

- HTML
- CSS
- jQuery
- Bootstrap
- Angular 12
- Docker
- Git
- SQL
- MySQL

- Cypress
- Ansible
- Puppet

Languages

- English
- Chinese (speaking proficient)

REFERENCES

Dr. Stevie Chancellor
Assistant Professor, Computer Science and Engineering, University of Minnesota, Minneapolis, Minnesota
E-mail: steviec@umn.edu
Scholar Profiles: Website — Google Scholar — LinkedIn

Dr. Shagun Jhaver
Assistant Professor, Communication and Information, Rutgers University, New Brunswick, New Jersey
E-mail: shagun.jhaver@rutgers.edu
Scholar Profiles: Website — Google Scholar — LinkedIn

Dr. Jina Suh
Principal Researcher, Microsoft Research Human-Computer Interaction, Microsoft, Redmond, Washington
E-mail: jinsuh@microsoft.com
Scholar Profiles: Website — Google Scholar — LinkedIn

Dr. Amy Zhang
Assistant Professor, Communication and Information, University of Washington, Seattle, Washington
E-mail: axz@cs.uw.edu
Scholar Profiles: Website — Google Scholar

Dr. Ross VeLure Roholt
Associate Professor and Director of Youth Development Leadership Program, School of Social Work, University of Minnesota, Minneapolis, Minnesota
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Scholar Profiles: Website — Google Scholar — LinkedIn