Ruotong Gao

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EDUCATION

University of Michigan, Ann Arbor, MI 2021 - 2023
Master of Science in Information Science, GPA: 4.0/4.0
- Marginality in Sociotechnical Systems Research Lab (MiSTS)
- *Thesis: Wellbeing Interventions on Social Media: A User-Centered Perspective*

Shanghai Jiao Tong University (SJTU), Shanghai, China 2017 - 2021
Bachelor of Engineering in Computer Science and Technology, GPA: 3.6/4.0
- Minor: Industrial Design, GPA: 4.0/4.0
- Advanced Network Lab (ANL) | Cross Media Language Intelligence Lab (X-LANCE)
- *Thesis: Self-Supervised Audio Embedding for Depression Detection*

RESEARCH INTERESTS

Mixed-Method Research in HCI: Assistive Technology & Disability, Mental Health & Wellness Technology, Critical Algorithm Studies, Wearable Technology (IoT), Computational Social Science

HONORS AND GRANTS

Rackham Graduate Student Research Grant (2022)
UMSI Master's Thesis Option Program (MTOP) Research Grant (2022)
Arts Integrative Interdisciplinary Research (AiiR) Grant (2022)
SJTU Undergraduate Participation in Research Program (PRP) Grant (2021)
National Undergraduate Program for Innovation and Entrepreneurship Grant (2020)
SJTU Undergraduate Merit Scholarship (2020)
China Undergraduate Mathematical Contest in Modeling 2nd Prize (2018)

RESEARCH EXPERIENCE

Wellbeing Interventions on Social Media: A User-Centered Perspective 2022 - Present
Principal Investigator, Lab: MiSTS, Advisor: Dr. Nazanin Andalibi, School of Information, U-Michigan
- Conducting a qualitative interview study on people with lived experience of depression's attitude toward well-being interventions on social media and generating design recommendations

AiRPLAY: Inclusive AR Game Development 2021 - Present
Research Assistant, Advisor: Roland Graf, Hun Seok Kim, Michael Nebeling, School of Electrical & Computer Engineering (ECE), School of Information, Stamps School of Art & Design, U-Michigan
- Developing an innovative inclusive user interface controller with BLE module and development boards merging prior accessible controller designs
- Rearchitected the entire AR game and Computer Vision (CV) system in the ROS2 framework to achieve robustness and flexibility for a business product

Disabled Live-Streamers: Challenges, Motivations, and Strategies 2021 - 2022
Research Assistant, Advisor: Dr. Robin Brewer, School of Information, U-Michigan

- Assisted with qualitative data analysis and drafting of a paper about disabled live-streamers' experience on Twitch with PI Rahaf Alharbi

Self-Supervised Audio Embedding for Depression Detection 2020 - 2021
Principal Researcher, Lab: X-LANCE, Advisor: Dr. Mengyue Wu, Department of Computer Science, SJTU

- Extracted and compared common audio features for machine learning for depression detection
- Designed and developed an innovative self-supervised audio embedding pre-training task with Keras and PyTorch based on BERT for feature engineering

Enhancing Diversity in Recommendation System 2019 - 2021
Principal Researcher, Lab: ANL, Advisor: Dr. Xiaofeng Gao, Department of Computer Science, SJTU

- Developed an item-based collaborative filtering strategy calculating users' interest vectors that focuses on recommendation diversity
- Collaborated with China Pacific Insurance (Group) Co. to develop a machine learning-based bundle recommender system

PROFESSIONAL AFFILIATIONS & SERVICE

Disability Culture at UM, member 2022 - Present
U-M Council for Disability Concerns, member 2022 - Present
U-M VR Visiting Days for Graduate Students, panelist August 2022

PRESENTATIONS

"AiRPLAY: Inclusive AR Game Development". Poster presented at Extended Reality (XR) at Michigan Summit 2022, University of Michigan, Ann Arbor, MI, April 2022.

"Accessible Design Practice: Evaluation on Elevator Controls for the Visually Impaired". Poster presented at the School of Design Shanghai Jiao Tong University and Fujitec Elevator Co., Shanghai, China, March 2021.

TEACHING EXPERIENCE

Graduate Student Instructor
SI 339: Web Design, Development, and Accessibility Fall 2022
SIADS 622: Information Visualization II Spring/Summer 2022

SKILLS

Qualitative Research: Semi-structured Interview (w/ vulnerable populations), Empathy Mapping, Qualitative Analysis
Technical Skills: AI & Machine Learning, Embedded Software Development, Computer Vision, Front-End Development
Quantitative Research: Data Manipulation & Analysis, Data Visualization, Survey, Causal Analysis
Prototyping: UX/UI Design, 3D Modeling (Rhino, Sketch), 3D printing, AR/VR Prototyping