

Meng Chen

Curriculum Vitae

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GDC 3.802B, Austin, TX 78712

RESEARCH INTERESTS

Human-Computer Interaction (HCI), Human-AI Interaction, Human-centered AI, Creativity, Accessibility

EDUCATION

The University of Texas at Austin	Austin, TX
Ph.D. in Computer Science	2024 - Present
<i>Advisor:</i> Prof. Amy Pavel	
University of Notre Dame	Notre Dame, IN
B.S. <i>summa cum laude</i> in Computer Science and Philosophy	2024
<i>Advisor:</i> Prof. Toby Jia-Jun Li	

PUBLICATIONS

* Indicates equal contribution

- [C.3] **A Study on Developer Behaviors for Validating and Repairing LLM-Generated Code Using Eye Tracking and IDE Actions**
Ningzhi Tang*, **Meng Chen***, Zheng Ning, Aakash Bansal, Yu Huang, Collin McMillan, and Toby Jia-Jun Li
Proceedings of the 2024 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2024)
- [C.2] **Luminate: Structured Generation and Exploration of Design Space with Large Language Models for Human-AI Co-Creation**
Sangho Suh*, **Meng Chen***, Bryan Min, Toby Jia-Jun Li, and Haijun Xia
Proceedings of the 2024 ACM Conference on Human Factors in Computing Systems (CHI 2024)
- [C.1] **A Bottom-Up End-User Intelligent Assistant Approach to Empower Gig Workers against AI Inequality**
Toby Jia-Jun Li, Yuwen Lu, Jaylexia Clark, **Meng Chen**, Victor Cox, Meng Jiang, Yang Yang, Tamara Kay, Danielle Wood, and Jay Brockman
Proceedings of the 2022 Symposium on Human-Computer Interaction for Work (CHI WORK 2022)
- [W.2] **CodeGRITS: A Research Toolkit for Developer Behavior and Eye Tracking in IDE**
Ningzhi Tang*, Junwen An*, **Meng Chen**, Aakash Bansal, Yu Huang, Collin McMillan, and Toby Jia-Jun Li
46th International Conference on Software Engineering Companion (ICSE-Companion 2024)
- [W.1] **An Empirical Study of Developer Behaviors for Validating and Repairing AI-Generated Code**
Ningzhi Tang*, **Meng Chen***, Zheng Ning, Aakash Bansal, Yu Huang, Collin McMillan, and Toby Jia-Jun Li
13th Annual Workshop at the Intersection of PL and HCI (PLATEAU 2023)

RESEARCH EXPERIENCES

University of Notre Dame, SaNDwich Lab	Notre Dame, IN
Undergraduate Research Assistant	2021-2024
<i>Advisor:</i> Prof. Toby Jia-Jun Li	
<u>Bridging Inequality in Digitally Mediated Gig Work</u>	

- Proposed a bottom-up approach using AI-enabled work planning tools and a network of intelligent assistants to empower gig workers and bridge AI inequality on privately owned platforms. [C.1]
- Developed *CREPE*, an Android data collector, that utilizes graph query to extract data from mobile devices.

Characterizing and Modeling Programmer Behavior Through Eye Tracking

- Leveraged Tobii eye tracker to characterize and study programmer behavior in software engineering tasks.
- Discovered that the provenance of LLM-generated code impacts programmers' debugging performance and the frequent switching between code and comments/prompts during code validation.
- Published a co-first-author paper on VL/HCC2024. [C.3]

UC San Diego Design Lab, Creativity Lab

La Jolla, CA

Visiting Researcher

2023

Advisor: Prof. Haijun Xia

- Proposed a new interaction framework for human-AI collaboration in creative tasks that allow users to explore a space of possible responses, rather than giving a single data point in response to user input.
- Developed *Luminate*, a novel interactive system that demonstrates this idea by facilitating the process of exploring the LLM outputs and enabling spatial exploration.
- Led the user study of 14 demonstrating that enabling dimensional exploration of LLM output space facilitates divergent thinking and the understanding of the design space.
- Published a co-first-author paper on CHI2024. [C.2]

FELLOWSHIP, SCHOLARSHIP & GRANTS

ACM UIST Student Travel Grant	2023
DaVinci Multidisciplinary Grant (\$4,500)	2023
Meruelo Family Summer Research Funding (\$3,500)	2023
Berthiaume Precision Medicine Fellowship (\$5,600)	2022
Stamps Scholarship (Full tuition-and-fee + \$12,000)	2020-2024
Notre Dame Greater China Scholarship	2020

SELECTED HONORS & AWARDS

Outstanding Computer Science Senior Award, <i>University of Notre Dame Dept. of Comp. Sci. & Eng.</i>	2024
Second Place (\$2,000), <i>Hesburgh Hackathon</i>	2024
Best Visualization Award & Best Insight Award (\$1,000*2), <i>American Statistical Association Data Fest</i>	2022, 2023
Junior Inductee, <i>Tau Beta Pi National Engineering Honor Society</i>	2022
Dean's Honor List (<i>All semester</i>), <i>University of Notre Dame</i>	2020-2024

TEACHING

University of Notre Dame

Teaching Assistant, *CSE 30151: Theory of Computing*

Fall 2023

INVITED TALK

Structured Generation and Exploration of Design Space with LLMs for Human-AI Co-Creation

HKUST (Guangzhou) Computational Media and Arts

Virtual. Aug. 7, 2024

Notre Dame NL+ Seminar

Notre Dame, IN. Nov. 27, 2023

SERVICE & OUTREACH

Academic Service

Reviewer ACM CHI(LBW) '23 '24
SV ACM UIST '24

Others

President, *Philosophy Club of Notre Dame*

Vice President, *Data Science Club of Notre Dame*

Director of Resources, *University of Notre Dame International Student Advisory Board*

SKILLS

Programming C/C++, Java, Python, JavaScript/TypeScript and others

UI/UX Interaction Design, Data Analysis, Rapid Prototyping, Semi-structured Interview

Tools React, PyTorch, Flask, Figma, Android Studio

Artistic Skills Photography, Procreate, Sketching, Watercolor

Languages English, Mandarin Chinese