# 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 Support Tools

## EDUCATION

**The University of Texas at Austin**                                                                   Austin, TX

Ph.D. in Computer Science                                                                            2024 - Present

Department of Computer Science, College of Natural Science

*Advisor*: Prof. Amy Pavel

**University of Notre Dame**                                                                       Notre Dame, IN

B.S. *summa cum laude* in Computer Science; Philosophy                                                          2024

Department of Computer Science and Engineering, College of Engineering

*Advisor*: 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 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 1st 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

**SaNDwich Lab, University of Notre Dame**                                                          Notre Dame, IN

Undergraduate Research Assistant                                                                          2021-2024

*Advisor:* 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 an Android data collector app (CREPE) that utilizes graph query to extract data from mobile devices.

<u>Characterizing and Modeling Programmer Behavior Through Eye Tracking</u>

- Leveraged Tobii eye tracker to characterize and study programmer behavior in software engineering tasks. [W.2]
- Findings include the impact of provenance of AI-generated code on programmers' debugging performance and the frequent switching between code and comments/prompts during code validation.
- Published a co-first-authored paper on VL/HCC2024. [C.3]

**Creativity Lab, UC San Diego Design 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-authored paper on CHI2024. [C.2]

# FELLOWSHIP, SCHOLARSHIP & GRANTS

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|---|---:|
| 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

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

# TEACHING

**University of Notre Dame**

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|---|---:|
| 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

**University of Notre Dame**

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

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| **Programming** | C, C++, Java, Python, HTML/CSS/JavaScript, TypeScript, Unix Shell and others |
| **UI/UX** | Interaction Design, Data Analysis, Participatory Design, Semi-structured Interview |
| **Tools** | Figma, Android Studio, PyTorch, React, Flask |
| **Artistic Skills** | Photography, Procreate, Sketching, Watercolor |
| **Languages** | English, Mandarin Chinese |