

# Meng Chen

## Curriculum Vitae

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18290 Dunn Rd APT 3106, South Bend, IN 46637

### RESEARCH INTERESTS

Human-Computer Interaction (HCI), Human-AI Collaboration, Cognitive Science, Creativity Tool

### EDUCATION

2020.8 - 2024.5 **University of Notre Dame** Notre Dame, IN  
B.S. in Computer Science; Philosophy  
Department of Computer Science and Engineering, College of Engineering  
GPA: 3.99/4.00

### PUBLICATIONS

\* Indicates equal contribution

[C.2] **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

*Arxiv*

[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.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

2021.9 - now **Undergraduate Research Assistant**

SaNDwich Lab, University of Notre Dame

Notre Dame, IN

*Advisor: Prof. Toby Jia-Jun Li*

Bridging Inequality in Digitally Mediated Gig Work

- Developed an Android data collector app (CREPE) that utilizes graph query to extract data from research participants' phones.
- Analyzed data collected from gig workers to discover inequality in Digitally Mediated Gig Work.
- Presented in 2022 Notre Dame Lucy Family Institute for Data Science Fall Symposium.

Characterizing and Modeling Programmer Behavior Through Eye Tracking

- Leveraged Tobii eye tracker to characterize and study programmer behavior in software engineering tasks.
- Designed models that predict or mimic the eye movement sequences to support programmers in validating and repairing Copilot-generated codes.

2023.6 - 9 **Visiting Researcher**

Creativity Lab, University of California San Diego

La Jolla, CA

*Advisor: Prof. Haijun Xia*

- Proposed a new interaction framework for human-AI collaboration in creative tasks that build on the premise that LLMs, which 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.
- Submitted first-authored paper to CHI2024.

2022.6 - 8

### Visiting Research Fellow

Neural and Data Science Lab, Feinstein Institute for Medical Research

Manhasset, NY

*Advisor: Prof. Theodoros Zanos*

#### Maternal Heart Rate Variability as a Predictor of Intrapartum Fever

- Identified 4 HRV metrics (i.e., RMSSD, SDNN, and LF) 2-3h prior to fever as early predictors for maternal intrapartum fever and built a logistic regression model to predict necessity of therapeutic intervention (AUC = 0.748).
- Presented in Feinstein Institute for Medical Research Summer Poster Session.

#### Assessment of Physiological Signs Related to Stress Using Wearable Device

- Analyzed data collected from Fitbit bands and found 7 granger-causality relationships between heart rate, HRV, and sleep quantity and quality.
- Built Structural Equation Modeling to model the causal relations stress level based on heart rate, HRV, and sleep.

## SCHOLARSHIPS, FELLOWSHIPS & GRANTS

2023	DaVinci Multidisciplinary Grant (\$4,500)	Institute for Scholarship in Liberal Arts
2023	Summer Research Funding (\$3,500)	Meruelo Family Center for Career Development
2022	Precision Medicine Fellowship (\$5,600)	Berthiaume Institute for Precision Health
2020	Stamps (Full tuition-and-fee) Scholarship	Stamps Family Charitable Foundation
2020	Greater China Scholarship	University of Notre Dame

## HONORS & AWARDS

2023	Best Insight Award (\$1,000)	American Statistical Association (ASA) Data Fest
2022	Best Visualization Award (\$1,000)	ASA Data Fest
2022	Junior Inductee	Tau Beta Pi National Engineering Honor Society
2021	Best Presentation Award (\$2,000)	Marmon Engineering Innovate-O-Thon
2019	Gold Award	International Genetically Engineered Machine Competition (iGEM)
All Semesters	Dean's Honor List	

## TEACHING

TA	FA23	CSE 30151	Theory of Computing		
Course Tutor	SP23	CSE 20312	Data Structures	CSE 20289	Systems Programming
		CSE 20110	Discrete Math	CSE 20311	Fundamentals of Computing

## SERVICE

Reviewer '23 ACM CHI(LBW)

## TALK

2023.11 Structured Generation and Exploration of Design Space with LLMs for Human-AI Co-Creation  
*Notre Dame NL+ Seminar*

## OUTREACH & LEADERSHIPS

2023 - 2024	VP for Event Planning	Data Science Club of Notre Dame
2023 - 2024	President	Philosophy Club of Notre Dame
2023	Scholar Expo Organizing Committee	Stamps Scholar Biannual National Convention
2022 - 2023	Director of Resources	University of Notre Dame International Student Advisory Board
2019 - 2021	Executive Board	7 <sup>th</sup> & 8 <sup>th</sup> Conference of Chinese iGEMer Community

## INDUSTRY EXPERIENCES

2021.6-7	<b>Technology Intern</b> , Xiaomi Technology Inc. Researched Simultaneous Localization and Mapping (SLAM) algorithms in the autonomous driving field.	Remote
2020.8-9	<b>Investment Intern</b> , SEE Fund Composed a 20-page sleep tracker industry pitchbook for Tiposi, a Silicon Valley based healthcare startup.	Remote

## SKILLS

<b>Programming</b>	C   C++   Java   Python   HTML/CSS/JavaScript   TypeScript   Unix Shell   SQL   MATLAB   R
<b>UX Skills</b>	Qualitative Research   Quantitative Research   Experiment Design
<b>Tools</b>	Android Studio   PyTorch   React & node.js   Figma   Adobe AI   Raspberry Pi
<b>Artistic Skills</b>	Photography   Procreate   Sketching   Watercolor
<b>Languages</b>	English   Mandarin Chinese