

Hongtao Hao

CONTACT INFORMATION	1210 W. Dayton St., Rm 3239 Madison, WI 53706	hongtaoh@cs.wisc.edu hongtaoh.com
EDUCATION	University of Wisconsin-Madison , Madison, WI Ph.D. in Computer Sciences Aug 2021 - Aug/Dec 2026 <ul style="list-style-type: none">Research Areas: Machine learning for healthcare (Disease progression modeling: subtypes, and mixed pathologies) Indiana University , Bloomington, IN M.A. in Media Arts and Sciences, GPA: 4.00/4.00 May 2020 Renmin University of China , Beijing, China M.A. in Journalism, GPA: 3.92/4.00 June 2018 Hebei Normal University , Shijiazhuang, China B.A. in English (Translation), GPA: 3.92/4.00 June 2016	
PUBLICATIONS	<p>Hao, H., & Austerweil, J. L. (2025). Bayesian Event-Based Model for Disease Subtype and Stage Inference. <i>Machine Learning for Health (ML4H) Symposium, & NeurIPS 2025 Workshop (Learning from Time Series for Health)</i>. [PDF] [Code]</p> <p>Hao, H., & Austerweil, J. L. (2025). Joint Progression Modeling (JPM): A Probabilistic Framework for Mixed-Pathology Progression. <i>Machine Learning for Health (ML4H) Symposium, & NeurIPS 2025 Workshop (Learning from Time Series for Health)</i>. [PDF] [Code]</p> <p>Hao, H., Prabhakaran, V., Nair, V. A., Adluru, N., & Austerweil, J. L. (2025). Stage-Aware Event-Based Modeling (SA-EBM) for Disease Progression. <i>Machine Learning for Healthcare (MLHC) Conference</i>. [PDF] [Demo]</p> <p>Guo, J., Mohanty, V., Piazzentin Ono, J. H., Hao, H., Gou, L., & Ren, L. (2024, May). Investigating interaction modes and user agency in human-LLM collaboration for domain-specific data analysis. <i>Extended Abstracts of the CHI Conference on Human Factors in Computing Systems</i> (pp. 1-9). [PDF]</p> <p>Guo, J., Mohanty, V., Hao, H., Gou, L., & Ren, L. (2024, March). Can LLMs infer domain knowledge from code exemplars? A preliminary study. <i>Companion Proceedings of the 29th International Conference on Intelligent User Interfaces</i> (pp. 95-100). [PDF]</p> <p>Hatfield, H. R., Hao, H., Klein, M., Zhang, J., Fu, Y., Kim, J., ... & Ahn, S. J. (2024). Addressing Whiteness in communication scholar composition and collaboration across seven decades of ICA journals (1951–2022). <i>Journal of Communication</i>, 74(6), 451-465. [PDF]</p> <p>Hao, H. 2023. Selfie-editing among young Chinese women may have little to do with self-objectification. <i>Current Psychology</i>, 1-18. [PDF], [Data and Codes], [Pre-registration]</p> <p>Hao, H., Cui, Y., Wang, Z., Kim, Y.S. 2022. Thirty-two Years of IEEE VIS: Authors, Fields of Study and Citations. <i>IEEE Transactions on Visualization and Computer Graphics</i>. [PDF], [Source code], [Demo]</p>	
SELECT PROJECTS	RAG-Powered Movie Recommendation [Web] , [Code] A movie recommender system using LLM and the TMDB dataset (RAG + Full Stack)	

Deep Learning for American Time Use Survey (ATUS) [Web], [Code]
Predicted demographic-based time-use patterns with TensorFlow.js; deployed as web app.

Chinese Women's Partner Choice Data Lab [Web], [Code]
Interactive Svelte app estimating population fit for partner criteria using statistical sampling.

ICA Conference Paper Browser [Web], [Code]
Scraped and cleaned a decade of ICA conference papers; built a React.js interface for browsing authors, sessions, and topics.

Introduction to Event-Based Model (EBM) [Web], [Code]
A tutorial website that explains step by step how EBM models disease progression

Visualizing 120 Years of Summer Olympic Games [Web], [Code], [PDF]
A data visualization project for Professor YY Ahn's *INFO 1590 Data Visualization* in 2019 Fall

Notes on Network Science [Web], [Code], [PDF]
My notes while auditing Professor YY Ahn's online course of *INFO I606 Network Science*

How to Create Online Books [Web], [Code]
A tutorial on creating online documentation/books

D3Book Companion [Web], [Code], [PDF]
A simple tutorial website helping beginners learn D3.js

Hugo-HT [Demo], [Code]
A website template based on **Hugo**

WORKING EXPERIENCE

Robert Bosch LLC, Sunnyvale, CA, USA

Research intern (LLM & HCI)

June 2023 - August 2023

- Developed LLM-powered solutions for corporate data analysis
- Built a full-stack application to enable engineers to interact with LLMs, streamlining data analysis and improving user workflows
- Implement automatic response generation and evaluation using Langchain and Microsoft Azure.
- Led to the publication of *Can LLMs Infer Domain Knowledge from Code Exemplars? A Preliminary Study*

YY Lab, Indiana University, Bloomington, IN, USA

Data visualization research assistant

August 2020 - May 2021

Assisted Professor **Yong-Yeol ("YY") Ahn** with the *Covid-19 Trend Visualizations project* (**Top 10 Liked** notebooks on Observable in 2020)

- Updated the **data workflow**
- Implemented the delay parameter, play speed parameter, go back parameter, and date range slider
- Improved the **website design**

St.Gallen Symposium Magazine, St.Gallen, Switzerland

Student journalist

May 2019

Worked with 13 team members from seven countries and four continents, supervised by **Andrew Curry**, with the group output of a **56-page magazine**. Representative work:

- *"It's not just about spending more money"*, Interviewing Heng Swee Keat, Deputy Prime Minister of Singapore;

- *Freeman Shen's electric dream*, Interviewing Freeman Shen, CEO of WM Motor — a leading Chinese electric car maker;
- *What role should governments play?*, Interviewing young politicians from India, Argentina, and Sri Lanka

China Daily, Beijing, China

News Editor & Translator

December & July 2017

Edited and translated news articles and videos

Wuhan Iron & Steel Corp., Ezhou, China

Interpreter & Small group organizer

April 2015

Worked with 5 trainees from Indonesia

TEACHING
EXPERIENCE

Department of Computer Sciences, University of Wisconsin-Madison, Madison, WI, USA

Teaching Assistant

August 2021 - Present

CS 571 Building User Interfaces (2023 Spring - Present), Cole Nelson, over 150 students each semester

CS 540 Introduction to Artificial Intelligence (2022 Summer & 2024 Summer), Young Wu, 33 students

CS 570 Introduction to Human Computer Interaction (2022 Spring & Fall), Prof. Jacob Thebault-Spieker, 193 students

CS 639 Data Visualization (2021 Fall), Prof. Yea-Seul Kim, 50 students

The Media School, Indiana University, Bloomington, IN, USA

Associate Instructor

January - May 2020

Led group discussions for 40 students enrolled in *MSCH-C101 Introduction to Media*

Graduate Assistant

August 2018 - December 2019

MSCH-C207 Introduction to Media Industry and Management, 125 students

MSCH-C200 Videogame Industry: System and Management, 60 students

New Oriental Education and Technology Inc., Beijing, China

TOEFL Writing Instructor

June - July 2018, June - July 2016

Prepared high school students and college undergrads for the Writing section of TOEFL, with more than 200 hours of practice

SERVICE

- Machine Learning for Health Symposium
- ACM Conference on Intelligent User Interfaces (ACM IUI) 2025
- *Current Psychology*
- IEEE VIS 2023
- 75th Annual International Communication Association Conference

HONORS AND
AWARDS

Second Top Student Paper Award, International Communication Association

2019

Wings of Excellence Award, 47th St.Gallen Symposium, Switzerland

2017

First Prize Academic Scholarship, Renmin University of China

2017

🏆 National Champion (1st/200,000), First "FLTRP Cup" English Reading Contest, Beijing

2015

National Endeavor Fellowship, Hebei Normal University

2015, 2014

SKILLS

- Programming Languages: Python, JavaScript, R, Julia, SQL
- Web Development: Next.js/React.js, HTML/CSS, FastAPI, MongoDB, Hugo
- Machine Learning & Data: TensorFlow, NumPy, Pandas, D3.js, scikit-learn, Bayesian Modeling
- Cloud Computing: Google Cloud Platform, Azure

REFERENCES

Joseph Austerweil (austerweil@wisc.edu)
Senior Researcher at **Chiba Tech** (Previously Associate Professor at the University of Wisconsin–Madison)
Chiba, Japan

Yong-Yeol (YY) Ahn (yyahn@virginia.edu)
Quantitative Foundation Distinguished Professor
School of Data Science
University of Virginia

Yea-Seul Kim (yeaseul.kim@gmail.com)
Data Science and Visualization Specialist
Apple (Previously Assistant Professor at the University of Wisconsin–Madison)