Minsi Hu

minsihu.com | minsi-hu | minsihu2004@gmail.com | Mimsqueeze

Education

University of Maryland, College Park (UMD) **GPA: 3.99 / 4.00**

- B.S. Computer Science (Machine Learning Concentration) **Received May 2025**
- B.S. Mathematics (Applied Math Concentration)
- M.S. Computer Science **Expected May 2026**

Relevant Coursework

- Machine Learning | Deep Learning | Computer Vision | Cryptography | Graph Theory | Real Analysis | Numerical Analysis | Probability Theory | Theory and Methods of Statistics | Advanced Numerical Optimization | Natural Language Processing | Quantum Computing | Differential Programming

Experience

Software Engineering Intern | *Capital One, McLean* **June 2025 – Present**

- Developing an **AI chatbot** to automate data onboarding for fraud detection, collections, and customer service use cases. **Streamlining manual workflows** to accelerate use case delivery and free up the capacity of core team engineers.

Course Instructor and Teaching Assistant | *University of Maryland* **August 2023 – Present**

- Instructor and facilitator for **CMSC389E**: Digital Logic Design Through Minecraft**.**
- Teaching Assistant for the **CMSC132**: Object-Oriented Programming, **CMSC216**: Introduction to Computer Systems**, CMSC330**: Organization of Programming Languages, and **STAT410**: Introduction to Probability Theory courses.
- Taught discussion sections, held office hours, and designed coursework for over **3000 students**.

Undergraduate Research Assistant | *University of Maryland* **December 2023 – Present**

- Developed **software** to assess the efficacy of various **feature extraction** methods (functional connectivity, graph centralities) and **machine learning models** (SVMs, MLPs, CNNs) for classifying **electroencephalography** (EEG) data.
- Currently exploring **learning-based 3D vision**, **generative models for 3D**, and **corner camera** computer vision topics with Dr. Jia-Bin Huang in the **UMD Vision and Learning Lab**.

Personal Projects

DeepCore | C++ & CUDA **May 2024 – June 2024**

- Engineered a custom **C++ neural network library** from scratch, leveraging **NVIDIA's CUDA** platform to accelerate **tensor** operations with **parallel computing** on the graphics processing unit (GPU). Evaluated to recognize handwritten digits from the MNIST database with over **98% accuracy**.

Emotion AI | Python & TypeScript | Bitcamp 2024 **April 2024 – April 2024**

- Developed a facial sentiment analysis and chatbot application using **OpenCV**, **TensorFlow**, **OpenAI API**, and **React + TypeScript** to recognize facial expressions in **real-time** with a custom-trained **CNN**, and curate personalized responses based on detected emotions.

Skills

Languages | Python, C++, C, Java, Rust, OCaml, R, Javascript, Typescript, SQL, C#, CUDA
Other | CUDA, AWS, HTML, CSS, React, MATLAB, Git, LaTeX

Awards

Grant Family Outstanding Achievement Award in Computer Science and Mathematics **May 2025**
Capital One Bank Dean's Scholarship in Computer Science **January 2025**