Ming H. Wang

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Education

University of Wisconsin at Madison — Madison, WI

Computer Science and Economics — *Expected Graduation: May 2026*

- Coursework: Operating Systems, Algorithms, Building User Interface, Database Management, Big Data, Intro to AI, Data Analytics for Economists, Money and Banking

Skills

- **Languages**: Python, Java, SQL, JavaScript, C++, C
- **Frontend Design**: Git, React, Npm, bootstrap, HTML/CSS, Figma
- **Backend Technologies**: Linux, Docker, Spark, RPC, Cassandra, Google Cloud

Experience

Undergraduate Researcher — September 2024 - Present

Spatial Computing and Data Mining Lab — *Madison, WI*

- Developing machine learning models for streamflow prediction, analyzing hydrological patterns in large-scale river networks.
- Applying Empirical Mode Decomposition to extract Long Short-Term Memory and improve 30% of flood prediction accuracy
- Processing over 5GB of high-resolution spatiotemporal data using PyTorch library parallel computing techniques
- Enhancing data imputation models, increasing prediction accuracy by 15%, reducing error rates in missing environmental data

Peer Mentor/Teaching Assistant — January 2023 - December 2023

UW-Madison — *Madison, WI*

- Led 15+ office hours weekly to provide support for students in Java/Python programming courses, ensuring effective assistance
- Assisted over 500 students each semester, guided them through coding challenges, debugging, and refining their solutions
- Delivered lesson discussion and presentations to reinforce core programming concepts, facilitating active learning
- Received positive feedback from over 250 students for clear and effective communication and personalized support

Projects

Personal Portfolio | Link

- Developed my personal website using React, Router, and Bootstrap to showcase experience with a emphasis on clean UI/UX design
- Utilized cross-device compatibility and seamless navigation, allowing users to access the site effortlessly on desktops, tablets, and mobile devices

Loan Data Processing | Link

- Handled loan data with I/O optimization for CSV and Parquet files, ensuring fault tolerance and efficient column-based access
- Built a gRPC server in Docker to manage loan data processing, storing records in MySQL and HDFS, and supporting concurrent RPC calls for data upload and summation

eBay Database | Link

- Designed and implemented a relational database schema in SQLite to store and efficiently query large-scale eBay auction data
- Transformed over 900KB large JSON datasets into structured relational data, executing SQL queries for advanced analytics

Health Insurance Analysis in The USA | Link

- Analyzed 10 years of U.S. health insurance data using Census Bureau's APIs and Web Scraping, uncovering trends in coverages
- Leveraged Matplotlib, Seaborn, and GeoPandas to create interactive time-series geospatial visualizations, providing insights into healthcare spending inequalities