Jimmy He

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Education

Boston University   Boston, MA
Master of Science in Computer Science   *Starting Fall 2025*

University of Wisconsin-Madison   Madison, WI
Bachelor of Science in Computer Science and Data Science; Certificate in Digital Studies   *May 2025*

- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Software Development, Database Management Systems, Operating Systems, Computer Networks, Machine Learning, Big Data Systems

Technical Skills

Languages: Python, Java, JavaScript, SQL, HTML5, CSS3
Frameworks & Libraries: React.js, RESTful APIs, Flask, React Native
Databases: SQLite, MySQL, PostgreSQL
Tools & Cloud: Git, Google Cloud, Docker, AWS, CI/CD, Agile/Scrum, Jira

Experience

Machine Learning Research Assistant   May 2025 – Present
NUU Mobile Sponsored Research   *Madison, WI*

- Built automated Python data processing pipeline using pandas and NumPy to handle large customer datasets, reducing manual preprocessing time by 75% and enabling faster model iteration cycles
- Created comprehensive data visualizations using matplotlib and seaborn following academic research standards, revealing key customer behavior patterns including seasonal churn trends and feature correlations for publication-ready research
- Performed comprehensive data preprocessing including missing value imputation and feature engineering on multi-dimensional datasets, preparing clean analytical inputs using statistical methods
- Collaborated with mentor and research team to extend capstone findings, utilizing Overleaf for professional documentation and maintaining research project continuity through ongoing sponsorship

Full Stack Developer   Jan 2025 – May 2025
UW-Madison x NUU Mobile Capstone Project   *Madison, WI*

- Developed Flask API endpoints to serve processed data from PostgreSQL database, implementing secure authentication and optimized data formatting that improved frontend load times by 40%
- Led frontend development using React, designing and implementing responsive dashboard interface with interactive data visualizations for customer analytics insights
- Collaborated in Agile development environment using GitHub/Jira for version control and sprint management, implementing Docker containerization and coordinating with NUU Mobile's lead data scientist for requirements translation

Student Team Lead   Nov 2021 – May 2025
Rheta's Market, UW-Madison   *Madison, WI*

- Supervised team of 30+ employees across multiple daily shifts over 3.5 years, implementing process improvements and training protocols that maintained smooth operations and high service standards
- Analyzed daily inventory patterns to optimize stock levels and ordering decisions, contributing to reduced stockouts and minimized food waste in fast-paced retail environment

Projects

ML-Powered Customer Analytics Platform | *React, Python, Flask, PostgreSQL, Docker, AWS*   Jan 2025 – May 2025

- Architected microservices backend on AWS infrastructure integrating XGBoost and MLP models with PostgreSQL database, while implementing responsive React frontend with dynamic charts and real-time filtering capabilities
- Developed full-stack web application for NUU Mobile featuring interactive dashboard with real-time data visualizations for customer churn analysis and business intelligence
- Established collaborative development workflow using Docker containerization, GitHub version control, and Agile methodology with weekly sprint cycles and stakeholder feedback sessions

Karaoke Room Booking System | *Python, Flask, SQLite*   May 2024 – Aug 2024

- Developed web-based karaoke room reservation platform with user authentication and room management, featuring live availability updates and intelligent time slot recommendations based on user preferences
- Built Flask backend API endpoints with administrative interface and calendar integration, designing optimized SQLite database schema for users, rooms, and reservations

Leadership & Activities

CS Student Advisory Board Member | *UW-Madison*   Mar 2024 – Dec 2024

- Conducted student surveys on CS curriculum improvements, analyzing feedback from 200+ students to identify areas for program enhancement and presenting data-driven recommendations
- Collaborated with Chair of UW-Madison Computer Science Department and advisors to advocate for curriculum improvements, contributing to policy discussions affecting 1,500+ CS students