Ya-Wei (JEREMY) Tsai

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EDUCATION

The University of Chicago Chicago, IL
M.S in Computer Science - Specialized in High Performance Computing March 2025 (Expected)
Coursework: Cloud Computing, Database, Parallel Programming, Distributed Systems
Teaching Assistant for Mathematics for Computer Science and Data Analysis (Linear Algebra)
Academic Projects: **Parallel Implementation of Basket Option Pricing**, **Credit Card Fraud Detection**

National Taiwan University Taipei, Taiwan
B.A. in Economics and Double Major in Political Science January 2022
Coursework: Statistics, Econometrics, Machine Learning
Academic Projects: **Stock Price Analysis and Macroeconomic Indicators**

SKILLS

• Programming Languages: Python, Java, Golang, C++, C, R, STATA, Haskell, JavaScript, TypeScript, Swift, SQL
• Development Tools: Git, Docker, Kubernetes, AWS (S3, EC2, Lambda), Microservices, Cloud Computing

PROFESSIONAL / RESEARCH EXPERIENCE

Realix AI Chicago, IL
Software Engineer Intern November 2024 – Present

- Build interactive dashboards in **React** to visualize financial KPIs, improving accessibility to real-time data and enhancing decision-making by 20%
- Design backend systems with **Express.js** to support risk management workflows, reducing API latency by 30% and enabling real-time monitoring of financial risks
- Deploy risk management tools on **AWS** (EC2, Lambda, S3), reducing infrastructure costs by 15% while ensuring high availability and data reliability for portfolio analysis
- Develop an **LLM-powered** microservice using **FastAPI**, streamlining financial research workflows and increasing productivity in investment strategy development

University of Chicago - The Climate Extremes Theory and Data Group Chicago, IL
Machine Learning Research Assistant June 2024 – September 2024

- Engineered scalable data pipelines with Xarray and Dask, processing high-dimensional time-series datasets and reducing computational latency by 30%
- Enhanced Transformer model architecture for predictive analytics, improving forecasting accuracy by 2%

Fermi National Accelerator Laboratory (Data Science Clinic) Chicago, IL
Data Science Intern March 2024 – June 2024

- Applied **Graph Neural Networks** with PyTorch Geometric to analyze and classify complex data structures, demonstrating adaptability to unstructured datasets
- Designed message-passing algorithms to optimize computational efficiency, reducing resource usage by 8%, applicable to high-frequency data pipelines

P. LEAGUE+ Taipei, Taiwan
Data Analyst September 2022 - August 2023

- Conducted **quantitative analysis** with **Python** and **Tableau**, optimizing business metrics and financial performance by 5%, and delivering actionable insights for strategic planning
- Built automated **ETL** pipelines to preprocess and analyze financial data, reducing processing time by 20% and enabling efficient reporting and stakeholder decision-making