Albert Shi Zhu

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Education

Rice University **Houston, TX**

B.S. in Computer Science, Mathematics; Minor in Data Science; 3.98/4.0 GPA May 2026

– **Coursework** († graduate-level): Machine Learning†; Tools and Models for Data Science†; ML Optimization†; Algorithms; Concurrent Program Design; Computer Systems; Probability and Statistics; Stochastic Models.

Experience

Enuit LLC — *Pandas, C#, React, Docker, Microsoft SQL Server* **Houston, TX**

Quantitative Developer Intern May 2024–Present

– Designed and implemented liquified natural gas shipment scheduler using mixed integer programming model, improving performance by over **200%**. Performed data preprocessing and cleaning with Pandas. Implemented REST API for

OptimaLab — *NumPy* **Houston, TX**

Undergraduate Researcher May 2023–Present

– Conducted research in machine learning optimization; specifically investigated novel methods of solving large-scale linear systems distributively. Implemented algorithms based on feature subsampling; experiments varying hyperparameters and step-size schemes achieved a mean-squared error **below 0.001**.

RiceApps — *React* **Houston, TX**

Software Engineer Intern May 2023–Aug 2023

– Built a marketplace web app with MERN stack as part of a 9-person team; development followed scrum-sprint agile methodology. Implemented landing/home pages and site routing using React Router and Material UI libraries.

Rice University **Houston, TX**

Teaching Assistant Jan 2024–Present

– Held twice-a-week office hours; graded assignments and exams for classes with over 300 students (linear algebra, intro and advanced algorithms, statistics). Met with professors to improve class materials and teaching strategies.

Jane Street Capital — *Python* **New York, NY**

First-Year Trading and Technology Program Participant Mar 2023

– One of 94 invitees to freshman education program; learned about fair value estimation and market making.

– Designed and implemented automated trading bot for Electronic Trading Competition, ultimately achieving the **highest PnL of the field** across 60+ simulated market rounds.

Projects

Concurrent Web Proxy — *C* Apr 2024

– Designed and implemented a high-performance web proxy for tracking HTTP/1.0 and HTTP/1.1 GET requests.

– Utilized producer-consumer model to implement efficient concurrency capable of simultaneously handling **over 100** client HTTP requests. Thread synchronization was achieved using POSIX mutex and condition variables.

Deep Learning Novel Classifier — *TensorFlow, NumPy, AWS* Apr 2024

– Implemented deep learning architectures (CNN, RNN with and without time warping, MLP) from scratch and benchmarked their performances on classifying lines of text from three novels. RNN with time warping achieved highest test accuracy of **91%** on random sample of 3000 lines.

Skills

Languages: Python, Java, LaTeX, C, C++, C#, SQL, HTML/CSS, JavaScript/TypeScript, Bash/Unix Shell
Technologies: Git, React, Pandas, Scikit-Learn, TensorFlow, Docker, Apache Hadoop, Apache Spark, Microsoft SQL Server, AWS (EC2), Frontend Development, Backend Development, Machine Learning, REST APIs, .NET framework

Awards

Rice Datathon, Best Visualization Award Feb 2023

3x AIME Qualifier Mar 2019, 2021, 2022

Hewlett-Packard CodeWars Competition, 3rd Place, Advanced Division Mar 2020