Justin Zheng

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Education

Georgia Institute of Technology Expected May 2027

Bachelor of Science in Computer Science | GPA: 4.0/4.0 *Atlanta, GA*

Relevant Coursework: Data Structures & Algorithms, Linear Algebra, Computer Organization & Programming, Probability & Statistics with Applications, Systems & Networks, Artificial Intelligence, Database Systems

Experience

Incoming Software Engineer Intern September 2025 – Present

NVIDIA *Santa Clara, CA*

- GPU Server team, Fall 2025

Software Development Engineer Intern May 2025 – August 2025

Amazon *Tempe, AZ*

- Developed a Seller Central homepage card highlighting $23MM in unclaimed referral credits for ∼131,000 merchants with incomplete tax forms in Amazon's Brand Referral Bonus program
- Handled calculation and ingestion of referral credit data by deploying optimized daily ETL jobs with Spark SQL in Scala
- Delivered enhanced tax form redirect UX using React TypeScript components with Redux state management
- Improved tax form action tracking coverage by 30% by deploying an AWS Lambda-SQS pipeline to process completions

Undergraduate Researcher January 2025 – May 2025

Georgia Institute of Technology - CHART Lab *Atlanta, GA*

- Developed BrainBridge, a collaborative application using Python, Flask, and React, to enhance interdisciplinary team communication through real-time AI-powered speech and language processing
- Engineered and integrated advanced AI/NLP pipelines, including transformer models, vector embeddings, and text classification, to bridge domain-specific language gaps
- Implemented real-time speech-to-text transcription and speaker diarization using WhisperX and pyannote.audio, achieving 90%+ accuracy

Machine Learning Researcher June 2022 – August 2022

The Pennsylvania State University - Professor Suman Saha *Remote*

- Analyzed 284K credit transactions to identify credit card fraud patterns using pandas, Matplotlib, and seaborn
- Optimized ML classifiers (e.g. XGBoost) achieving 99.95% accuracy with grid search hyperparameter tuning
- Improved model performance by addressing severe data imbalance through targeted feature selection

Projects

Virtual Memory Simulator | *C*

- Developed a comprehensive virtual memory simulator in C, implementing core OS functionalities like virtual-to-physical address translation, page table management, and demand paging
- Improved performance on diverse workloads (A*, MCF, Perlbench) using FIFO, Approximate LRU, and Random page replacement, reducing page faults by up to 42.9% and AMAT by up to 16170 clock cycles
- Optimized disk I/O by up to 32.5% via efficient dirty page tracking and write-back mechanisms

Multithreaded CPU Scheduler | *C*

- Architected a C-based CPU scheduler (FCFS, RR, SRTF, Priority Aging), reducing average wait times by up to 22%
- Governed process lifecycles and thread safety using pthreads, mutexes, and condition variables for robust concurrency
- Furnished a CLI for dynamic algorithm/parameter selection, enabling comparative performance analysis across workloads

Workout of the Day (WOD) Prediction | *Python*

- Developed a Python ML pipeline predicting CrossFit Open scores using athlete data, workout text, and benchmarks
- Achieved 0.57 test MAE (4.6% improvement) by tuning Random Forest and PyTorch neural network hyperparameters
- Enhanced accuracy via LLM-based workout description embeddings (PCA) and robust feature engineering

Technical Skills

Languages: Java, Python, C, C++, HTML/CSS, JavaScript, TypeScript, SQL, Scala
Frameworks: Next.js, React, Node.js, Express, Tailwind CSS, FastAPI, Apache Spark
Tools: Git, MongoDB, Firebase, AWS, MySQL, Jupyter