Tiger Ji

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Education

Brown University September 2021 – May 2025

B.S. in Computer Science and Applied Mathematics *GPA: 4.0*

- Relevant Coursework: Data Structures & Algorithms, Distributed Systems, Deep Learning, Machine Learning, Compilers, Databases, UI/UX, Stochastic Processes, Convex Optimization, Probability & Statistics

Experience

Braze | *Backend Software Engineering Intern* June 2024 – August 2024

- Achieved **95%** faster turnaround times for customer data backfill requests by automating the recovery process for historical streamed data, generating a **$50,000+/year** increase in projected savings and revenue
- Implemented scalable, fault-tolerant Java microservices to manage distributed message queues publishing **millions of events/day** from Snowflake to data analytics and warehouse partners through Kafka pipelines
- Deployed API providing real-time observability metrics to track progress and cumulative cost of ongoing replays

Braze | *Full-Stack Software Engineering Intern* June 2023 – August 2023

- Engineered plugin to serialize Figma wireframes into files compatible with Braze's In-App Messaging platform, enabling **1,800+** companies to design and push personalized promotions to customers with zero code
- Integrated security and quality-of-life features into the client developer console such as private key obfuscation for improved data protection and analytics detailing API usage trends over time
- Created internal tooling to help managers standardize organization-wide documentation, customize team-specific onboarding tasks, and monitor bug reports via Slack and Firebase integration

The Critical Review | *Director of Engineering* April 2023 – Present

- Directed team of ∼15 in migrating **10,000+** lines of legacy code for Brown University's course & professor review site to modern tools (e.g. React/TypeScript), streamlining development of new features for **7,500+** students
- Rewired database schema and API to fix inaccurate review statistics for **70,000+** SQL records with inconsistent storage conventions across **20+** years, improving student and professor satisfaction with the platform
- Instituted robust testing infrastructure to ensure mobile compatibility, accessibility, and end-to-end functionality

Brown University | *Undergraduate Teaching Assistant* January 2023 – Present

- Conducted weekly office hours, lab sections, and project gear-up sessions for **400+** students to teach core data structures & algorithms (CSCI 0200) and database system concepts (CSCI 1270) such as query optimization
- Revamped course project Decision Tree by increasing staff solution code accuracy by ∼10% and revising assignment handout for better student understanding of mutability, recursion, and tree traversals

Google | *Computer Science Summer Institute* July 2021 – August 2021

- Coded personalized "university student page" application to provide incoming college students with productivity features ranging from a built-in calendar and note-taking tool to a local restaurant recommender
- Configured 10+ web projects to reinforce fundamentals like asynchronous programming, authentication, and Git

Projects

Neural Decompiler for Assembly-to-C Translation *Python, TensorFlow*

- Architected transformer-based neural network trained on **5,000,000+** parameters capable of translating low-level x86-64 assembly instructions to human-readable C programs with over **90%** accuracy
- Developed heuristic-based refactoring script to regularize variable and function names in training dataset of 10,000+ C programs with **99%** compilation reliability, stabilizing model training and overall translation quality

MoWSE: Distributed Mean-of-Words Vector Similarity Search *JavaScript, Bash, AWS*

- Built iterative MapReduce workflow distributed across multiple AWS EC2 instances to efficiently crawl and index **15,000+** pages/second for a custom search engine using word vector embeddings to query relevant results

Skills & Interests

Programming Languages: Python, Java, TypeScript/JavaScript, C/C++, SQL, Go, Kotlin, OCaml, HTML/CSS
Frameworks & Tools: React.js, Node.js, PostgreSQL, MongoDB, Apache Kafka, TensorFlow, Docker, Flask, Figma
Clubs & Organizations: Breakdance Club (Dance Captain), Brown University Orchestra, Intramural Basketball