Jimmy Zhang

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Education

Carnegie Mellon University | Pittsburgh, PA   **May 2024**
Bachelor of Science in Computer Science; Minors in Machine Learning, Computer Systems, Business Admin
- GPA: 4.0/4.0, Dean's List High Honors (all semesters), Senior Leadership Recognition
- Selected Coursework: Compiler Design (15-411), Database Systems (15-445), Distributed Systems (15-440), Deep Learning (10-707), ML with Large Datasets (10-605), Convex Optimization (10-725), Computer Systems (15-213), Probability and Computing (15-259), Algorithm Design (15-451), Parallel Algorithms (15-210)

Cinco Ranch High School | Katy, TX   **May 2020**
- GPA: 4.84/4.0, Rank: 1/787, Valedictorian

Technical Experience

Incoming Graduate Software Engineer – *IMC Trading*   **Aug 2024 – present**
Teaching Assistant – *Carnegie Mellon University School of Computer Science*   **Aug 2021 – May 2024**
- Taught probability, parallel algorithms, functional programming, and discrete math courses over 6 semesters
- Held recitations for 25+ students twice per week to review lecture concepts and supervise collaborative labs
- Conducted office hours for 400+ students to help with homework and conceptual understanding
- Graded exams and weekly homework assignments with other teaching assistants

Software Engineer Intern – *IMC Trading*   **May 2023 – Aug 2023**
- Contributed performant Java to 15+ interconnected internal components under the Equity Options execution team
- Implemented robust error handling, fallback behavior, and interactive graphical interfaces for options quoting logic
- Collaborated with quantitative traders daily to fulfill ad-hoc requests and new trading features
- Discussed system-wide design implementations for larger scale quoting projects with full-time developers

Software Engineer Intern – *Meta*   **May 2022 – Aug 2022**
- Created a Python command line interface to aggregate noise metrics when identifying performance regressions
- Integrated bias analysis into over 50,000 continuously running end-to-end Jest tests to report ongoing breakages
- Reduced number of Instagram and Messenger performance irregularities pushed to production by 30%
- Developed SQL queries and data aggregation libraries to allow test authors to analyze historical test data and trends
- Collaborated cross-functionally with developers to provide more coverage against flaky performance tests

Software Engineer Intern – *Grapevine AI*   **Jun 2021 – Aug 2021**
- Created a dynamic calendar page in React that helps users schedule meetings and reminders with their contacts
- Integrated robust integration testing and error handling with Cypress and Sentry
- Managed 100+ quality assurance bugs and updates in a fast-paced Agile environment
- Collaborated with UI/UX designers to create and implement new prototypes for the Grapevine AI dashboard website

Full Stack Software Engineer Intern – *Boo Dating*   **Jun 2021 – Aug 2021**
- Implemented full stack daily question board and voice messaging features that boosted activity and retention by 300%
- Prototyped fronted designs and translated multi-layer wireframes to Flutter
- Led REST API lifecycle development with thorough design, documentation, and Chai integration testing

Projects

C0 Compiler – *15-411 Compiler Design*   **Jan 2024 – May 2024**
- Semester-long partner project; created a compiler in OCaml that generates x86 assembly from C0 code, a subset of C
- Supported static and dynamic semantics for statements, conditionals, loops, functions, arrays, and pointer accesses
- Designed static analysis algorithms, intermediate representations, register allocator, and code generation from scratch
- Implemented various compiler optimizations like SSA form and tail calls, as well as extensions to compile to LLVM

Chess Discord Messaging Bot   **May 2020 – Aug 2020**
- Created Discord bot that allows users to play chess, listen to YouTube media, and create randomized teams
- Designed using Node.js and MongoDB Atlas to store existing chess games across multiple channels
- Deployed with Heroku and GitHub to service over 100 users across 4 Discord servers

Skills

Languages: Python, Java, C, OCaml, Standard ML, C++, SQL, Go, JavaScript, HTML, CSS
Frameworks/Software: Git, GitHub, React, MongoDB, AWS, Node.js, GatsbyJS, Express, Flutter, REST API