Viet Hoang Chu

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EDUCATION

Pitzer College Claremont, CA
Bachelor's Degree, **Joint Computer Science and Mathematics (Honors)** Expected May 2024

- **GPA: 3.7 / 4.0** (Major GPA: 3.9 -- Cross-registered Math and CS classes at Harvey Mudd College)
- **Coursework**: Data Structures & Algorithms in C++ (**TA 1 year**), Machine Learning, Web Development, Computer Systems, Operating Systems, Database Systems, Computer Network, Computer Science Insights, Theory and Logic
- **Awards:** Codeforces Master, 1st Place: Citadel Datathon, Round 3: Google Code Jam, Winner SIG Coding Challenge.

SKILLS

- **Programming Languages**: Python, C++, Java, JavaScript, TypeScript, React, Golang, SQL, OCaml, Racket
- **Technologies**: Linux, Flask Microservices, Node.js, kubernetes, AWS, GCP, PostgreSQL, Beautiful Soup, Git

WORK EXPERIENCE

Periwinkle Trading August 2023 - Present
Quantitative Developer - Contract for Harvey Mudd Clinic Project *Java*

- Contributed performant Java to 15+ interconnected internal components under the Equity Options execution team.
- Implemented helper functions in C++ for robust error handling and trade execution fallback for Options quoting logic.
- Discussed system design enhancement weekly with company CEO Scott Smallwood, former partner at PDT Partners.

University of Southern California June 2023 - August 2023
Undergraduate Research Intern - Operation Research and Data Science *Python, MATLAB*
Topic: *"Last-mile Delivery Optimization with Recurrent Neural Network"*

- Developed a pair-wise Recurrent Neural Network with a customized attention-based mechanism to predict the path deviation from the theoretical shortest-distance path a human driver would follow under external circumstances.
- Designed an iterative Sequence Generation Algorithm used after model training to identify the first stop of a route that yields the optimal operational cost and achieve the global efficiency of all routes under 120 different simulations.
- Prediction accuracy from this model **improved by 15%** compared to LSTM encoder–decoder and pointer network.

Meta May 2022 - August 2022
Engineering Intern *C++, Hack, React*

- Used ReactJS and Hack to develop both the alert inbox page and the Developer Communication Platform (DCP), a tool enabling Meta employees to communicate with third-party app developers.
- Revamped the inbox page using a new React component library to increase consistency of the UI styling throughout the platform, which increased the new library UI coverage from <5% to 90%+.
- Optimized scheduled cache refresh in C++ by user activity prediction resulted in a **30% decrease** in CPU cycles.
- Utilized Directed Acyclic Graph data structure that improved runtime of Meta's generational data workflows by 20%.

CoHost.ai (Seed-stage Startup) June 2021 - August 2021
Engineering Intern *Python, C++, TypeScript, React, Flask Microservices, Node.js, AWS*

- Built full-stack the company's Conversational AI Chatbot for Real Estate leasing agents, serving **2000+ daily users**.
- Deployed a multi-threaded Message Queue with Inter-Thread Communication method which prevents message losses.
- Designed Database ORM and built the company's Chatbot full-stack with test suites reaching 100% code coverage.

PROJECTS

ClaremontCourses | Independent *Python, React, TypeScript, Golang, Flask Microservices, Node.js, AWS*

- Built a course searching website serving 2000+ users and solved a decade-long problem at Claremont Colleges.
- Optimized the search engine's querying performance from 25 to 0.8 seconds, a 97% decrease using bitwise operation.
- Constructed algorithms scraping 4500+ courses an hour, matching equivalent courses with 98% accuracy across 5 different colleges, and self-designed data structures and regular expressions to build full-depth prerequisite trees.

Python to Java for Android Development | **MLH Fellowship** Open-Source Contributor *Java, Python, Kafka, Spark*

- Built a deletion state service to store cluster info and transformation history, and support gRPC/HTTP requests.