Ivan Chau

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Experience

Two Sigma Software Engineering Intern — New York, NY **May - Aug 2022**

- Assessed streaming capabilities of Apache Arrow execution nodes by creating data generation utilities and designing performance and memory benchmarks in **C++** with the **Open Source** community.
- Achieved constant memory footprint for Arrow's multi-threaded table join nodes using bounded queues.

Arcesium Software Engineering Intern — New York, NY **Jul - Sep 2021**

- Developed a distributed event ingestion system with **Typescript**, **Kafka**, **PostgreSQL**, and **NodeJS.**
- Increased horizontal scalability of system by introducing load balancing, containerization, and auto-scaling logic.
- Allowed developers to interface with system metrics and configurations through a **React** frontend.

TikTok Applied Machine Learning Intern — Remote **Apr - Jul 2021**

- Enhanced fault tolerance and scalability of job coordinating machines by implementing save/restore and load balancing mechanisms using **HDFS**, **Flask**, and **Python**.
- Led research and benchmarking on Locality-Sensitive Hashing training for dense neural networks in **C++**.
- Productionized the Group Follow-The-Regularized-Leader Optimizer in AVX and **Tensorflow**.

Minimap Part-Time Software Engineer — New York, NY **Nov 2020 - Present**

- Created M.V.P. **Swift** iOS app and **GCP** backend in **Typescript** for launch with three engineers.
- Led the development of an event-based recommendation system in **Python** with **Kubeflow** and **Docker**.

Bloomberg L.P Software Engineering Intern — Remote **Jun - Aug 2020**

- Increased developer visibility by creating tool to aggregate issue metrics and metadata across internal databases using **Jupyter/Python**.
- Automated the issue triaging process by prioritizing and grouping issues with time-series analysis and graph theory.

Bloomberg L.P Software Engineering Intern — Princeton, NJ **Jul - Aug 2019**

- Discovered political trends and improved baseline accuracies by 31% by training a CNN with GloVe word embeddings to classify partisanship from state legislation using **Python** and **Keras**.
- Created interactive frontend to explore clusters of legislation by partisanship using ThreeJS and T-SNE algorithms.

Bloomberg L.P Software Engineering Intern — Princeton, NJ **Jul - Aug 2018**

- Increased user flexibility and visibility by creating online IDE with **React** and **NodeJS**, allowing for design and execution of custom web-crawling schemes with real-time feedback from backend processes through **Kafka**.

Education

Columbia University, School of Engineering and Applied Science (GPA:3.9) **Graduating May 2023**

B.S in Computer Science, Minor in Applied Math

Activities: Columbia Quant Group Research Board, Columbia ICPC, Application Development Initiative, AI @ Columbia

Skills

Languages: Python, C++, TypeScript/JS, Java, Swift

Technologies: PostgreSQL, Docker, Kafka, Kubeflow, PyTorch, Node, Flask, iOS, React

Projects

GradeCheck (App Store) — Princeton, NJ **Feb 2016 - Jun 2019**

- Accrued 2.4k users by designing, productionizing, and marketing an app for the Montgomery H.S gradebook system.
- Developed APIs, native **iOS/Android** frontend, and **NodeJS** and **MongoDB** backend from scratch.

Awards

Competitive Programming C++/Python - USACO Gold, Top 1500 Google Kickstart **2019-2021**

Hackathon Winner at Hack the North, PennApps, MHacks, and HackPrinceton (Projects) **2017-2021**

WWDC 17 & 19 Scholarship **Jun 2017/2019**

- One of the 300 scholars selected to attend the Worldwide Developers Conference by Apple.