Michael Cao

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Education

Stanford University — Stanford, CA
Master of Science in Computer Science (AI) — *Jan. 2022 – June 2024*

Stanford University — Stanford, CA
Bachelor of Science in Computer Science (Information), GPA: 3.99 — *Sept. 2019 – June 2023*

Experience

Software Engineering Intern — June 2023 – Sept. 2023
Databento — *New York, NY*
- Implemented and deployed a reliable WebSocket API, saving millions of API calls/day by eliminating busy-polling
- Enhanced monitoring service efficiency and ensured staying under usage quota
- Collaborated closely with frontend and product leads to align project requirements with business objectives

Python Development Intern — June 2022 – Aug. 2022
Akuna Capital — *Chicago, IL*
- Built full-stack web app using Python and React, enabling traders to configure parameters for new expirations
- Introduced an asynchronous per-parameter handler strategy to allow for efficient parameter creation
- Established robust input validation, error handling, and error reporting and achieved 80% test coverage
- Designed a flexible and effective PostgreSQL database schema for storing parameter configurations

Software Engineering Intern — June 2021 – Sept. 2021
DoorDash — *San Francisco, CA*
- Deployed gRPC microservice endpoints using Kotlin, optimizing store menu and data fetching for SEO webpages
- Implemented a read-through caching scheme for Redis with partial caching and request deduplication
- Reduced average endpoint latency by 10x from 200ms to 20ms and lifted SEO page conversion rates by 3%
- Managed Kafka consumer to process menu change events and keep cached menus up to date

Software Engineering Intern — June 2020 – Sept. 2020
UnitedHealth Group — *Minnetonka, MN*
- Implemented CycleGAN in Tensorflow for document cleanup, improving OCR performance by over 5%
- Developed a React-based frontend used by 10+ teams to streamline and automate image classification workflows

Projects

Droplet - Soundbite Social Media Platform | *React Native, Redux, Firebase* — Sept. 2020 – Jan. 2021
- Developed a social media app for shortform audio and launched beta with 200 downloads on iOS
- Implemented and owned key pages such as the main feed, profile page, and audio recording page

PintOS Operating System | *C* — Jan. 2022 - Mar. 2022
- Implemented and/or enhanced core components of a barebones operating system
- Extended basic thread system by implementing priority scheduling and a multilevel feedback queue scheduler
- Implemented virtual memory, paging, stack growth, memory mapped files, and basic filesystem

Retro QANet - CS224N Final Project | *PyTorch* — Feb. 2021 – Mar. 2021
- Developed machine reading comprehension (MRC) model to accurately solve question answering problems from the Stanford Question Answering Dataset (SQuAD)
- Combined two leading non-PCE model architectures to achieve an F1/EM score of 66.10/62.28

Technical Skills

Programming Languages: Python, JavaScript, Kotlin, C, C++, SQL, HTML, CSS, Swift, Java, C#
Frameworks: React, Redux, Node.js, FastAPI, Express, SwiftUI
Tools: Git, Docker, Kubernetes, Postgres, Firebase, MongoDB, Kafka, Unity
Libraries: PyTorch, NumPy, TensorFlow, pandas, matplotlib, scikit-learn, seaborn
Certifications: Coursera Deep Learning Specialization