Michael Cao

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EDUCATION

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

Stanford University   Stanford, CA
Bachelor of Science in Computer Science, GPA: 3.996   *Sept. 2019 – June 2023*

EXPERIENCE

Python Development Intern   June 2022 – Aug. 2022
Akuna Capital   *Chicago, IL*
- Built revamped full-stack web application using FastAPI and React for traders to configure new expirations
- Implemented a per-parameter handler strategy to allow for asynchronous parameter creation for new expirations
- Created frontend table UI that allows traders to add, edit, and disable parameter configurations
- Established robust input validation and error handling in the backend as well as error reporting on the frontend
- Designed database schema to effectively and flexibly store parameter configurations

Software Engineering Intern   June 2021 – Sept. 2021
DoorDash   *San Francisco, CA*
- Developed multiple gRPC endpoints using Kotlin for microservice that fetches store data/menus for SEO pages
- Designed and implemented an efficient caching scheme in Redis to cache full menus loaded from the database, improving microservice's average backend latency by 10x
- Created Kafka consumer to process menu change events and keep cached menus up to date
- Increased both traffic to store pages and conversion rates by 3 to 5 percent

Software Engineering Intern   June 2020 – Sept. 2020
UnitedHealth Group   *Minnetonka, MN*
- Implemented deep learning models (CycleGAN, autoencoders) using Tensorflow for image classification/cleanup
- Created web platform in React 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 an short-form audio based social media app for iOS and Android
- Implemented key pages such as the main feed, profiles, 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
- Enhanced OS to support user programs by implementing argument passing, user memory, and system calls
- Implemented virtual memory, paging, stack growth, and memory mapped files
- Improved file system to have indexed and extensible files, subdirectories, and a buffer cache for efficiency

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

Lyri - Song Lyrics in Real Time | *React, Node, Electron*   Oct. 2020
- Created cross-platform desktop app that displays song lyrics based on the user's currently playing song on Spotify
- Interfaces with Spotify API and scrapes both Genius and MusixMatch for song lyrics

TECHNICAL SKILLS

Languages: Python, JavaScript, Kotlin, C/C++, HTML/CSS, SQL, Java
Frameworks: React, Redux, Node.js, Electron, FastAPI, Express, MongoDB, Firebase
Developer: Git, Docker, Kubernetes, Jenkins, Postgres
Libraries: PyTorch, NumPy, TensorFlow, pandas, matplotlib, scikit-learn, seaborn
Certifications: Coursera Deep Learning Specialization