Ruijie Zhang

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EDUCATION

New York University
Sep 2019 - Jun 2023, New York
B.S. Computer Science; B.S. Econometrics.
Major GPA: 3.6
Courses: Data Structures, Computer System Organization, Operating Systems, Intro to Algorithms, Discrete Math

SKILLS AND OTHERS

- Languages: Java, JavaScript, Python, C/C++, Go, SQL, Swift, Matlab, HTML/CSS, Haskell
- Skills: Git, React, Unit Test, Log, AWS, Docker, OOP, Charles Proxy, Linux, Tensorflow, PyTorch, Scikit-learn
- Open Source Contribution: Tensorflow, Keras, MMdetection
- Published Products: CoCreate (4.5 10.3k downloads), ItemMemo (4.6 12.2k), TimeStatistics (4.9 4.22k)

PROFESSIONAL EXPERIENCE

Project Z [App Store]
Software Engineer Intern (Jan 2021 - May 2021)
- Worked with a team of 8 frontend engineers and 4 backend engineers on the iOS social media app: Project Z with Swift and RxSwift. The app currently has more than 1 million users
- Implemented the chat room function of the app; wrote reusable UI components with SnapKit; used Moya to abstract API call and WebSocket for real-time communication; integrated Agora API for real-time voice chat; applied SDWebImage for image caching to increase performance
- Wrote scalable and backward compatible code by communicating with colleagues from backends
- Performed code review to iterate quickly while maintain code quality

PROJECT EXPERIENCE

CoCreate App [App Store]
Founder (Oct 2019 - June 2021)
- Published on App Store and got 10k+ downloads, 10k+ boards created by users
- Lead a team of two engineers to build the app from conception to launch, managed project progress using Github
- Frontend: An iOS app supports real-time collaboration with drawing board based on Apple Pencil
- Backend: Applied Flask and Socket.IO for real-time communication to design a http server with REST API
- Python unittest for unit test, SQL for data persistence, built a stress test pipeline for socket.io performance profiling, git for version control, Sentry for logging
- Deployed via Docker Container on AWS, integrate Google Analytics to gain user feedback for product iteration

FastDraw Library [Github]
Developer (Oct 2019 - June 2021)
- Published the first Swift drawing library on Github supports pencil, eraser and lasso via CocoaPods
- Designed an algorithm to produce a smooth hand-writing curve with Core Graphics
- Implemented a data structure indexing drawings; an algorithm determining lasso drawn by user; GCD multithreading library for parallel computing for lasso function; achieve 100 times speed up
- Applied Delegate and Singleton design pattern to achieve modularity and extensiveness

Computer Vision Model [Kaggle]
July 2021 - August 2021
- Built a model to detect abnormal area and determine if patient has Covid-19, achieved mAP of 0.219
- Preprocessed data with pandas, visualize radiographs with matplotlib and pydicom, performing EDA
- Trained a Cascade R-CNN for object detection with mmdetection; an EfficientNet for classification with keras

Open Source Experience [Github Pull Request]
September 2021 - October 2021
- Implemented function to calculate FLOPS of YOLACT in a computer vision library mmdetection [17.2k stars]
- Studied source code of mmdetection, application of pylint, pytest, codecov for Continuous Integration
- Refactored code according to code review of mmdetection core team members, merged into main branch