

XUANHAO ZHANG

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EDUCATION

Northeastern University, Boston, MA

Sep. 2018 - Dec. 2020

Master of Science in Electrical & Computer Engineering, GPA 3.84/4.0

Southeast University, Nanjing, China

Sep. 2013 - Jun. 2017

Bachelor of Engineering in Information Science and Technology, GPA 3.67/4.0.

WORK EXPERIENCE

Synopsys Inc

Boxborough, MA

Software Engineer Co-op (Methodology Core Team)

Jan. 2020 - Aug. 2020

- **Simulation Optimization - A Cloud Resource Allocation Tool based on Machine Learning**
 - Developed a Machine Learning Platform from scratch, which helps the circuit designers to reserve the optimal cloud resources to run simulation.
 - Built the data pipeline and ETL scripts with PySpark, and trained a MixNet model using PyTorch.
 - Collaborated with the infrastructure team to integrate the tool with the internal simulation platform, including PostgreSQL database, REST API and Django backend.
 - Prototyped and benchmarked the performance of the deployed ML system, including data recollection, evaluation and retraining system.
 - Saved average 60% on computing resources, which prevent over millions of dollar wastage on the CPU farm. The results were presented on the Design Automation Conference 2020.
- **QualCheck - A QA Automation Platform to Improve Quality**
 - Developed a QA automation platform based on Python, which allowed engineers and product managers to evaluate the circuit design with the required tech specs.
 - Enhanced the scalability and compatibility, including multiple input resources (Linux workers, websites and Perforce) and extendable checklists (Json or XML).
 - Deployed and tested with Jenkins and Docker. Collaborated with the web team to present the result on a website using React as frontend and Django as backend.
 - Designed the real-time visualization Dashboard based on MS PowerBI for product managers.
 - Released in a group of 1000 people, decreasing 10% error rate caused by manually checking.

Yik Data Analytics

Nanjing, China

Software Development Engineer Intern

Jun. 2016 - Sep. 2016

- Developed a QR code system which added an anti-forgery mask to the normal QR code, including the backend server, QR code database and an Android App.
- Built the backend server to generate QR code based on Spring Boot and zxing API from Google.
- Funded by some luxury brands in place of their normal Bar Code for anti-forgery.

TECHNICAL SKILLS

Computer Languages

Python, Java, C++/C, Matlab, Javascript, SQL

Fullstack

Node.js, MongoDB, SpringBoot, Redis, Django, React, Angular

Big Data and ML

Hadoop MapReduce, Spark, Kafka, Ansible, Pandas, PyTorch, XGBoost

Automation and DevOps

AirFlow, Docker, Jenkins, Kubernetes, AWS EC2/S3/DynamoDB, Git

SELECTED PROJECTS

Movie Recommendation System

Sep. 2020 - Dec. 2020

- Built a movie recommendation system based on Collaborative Filter in PySpark on the MovieLens Dataset.
- Conducted ETL scripts to filter movies' categories, rating or other information with Pandas and Spark.

YelpBBQ - Web Application

Mar. 2019 - May 2019

Github: <https://github.com/2Hurric/YelpBBQ> Demo: <https://calm-depths-02705.herokuapp.com>

- Designed a REST Yelp like Web application that allows users to share their BBQ experience by uploading photos and comments.
- Developed the backend using Node.js and Express, and utilized MongoDB to store users' archive.
- Implemented user authentication by Passport.js and integrate Map on based on Google Map API.

Google Analytics Customer Revenue Prediction

Oct. 2018 - Dec. 2018

- Analyzed raw log data from GStore (faced to normal customers) to predict revenue per customer.
- Preprocessed the raw data (2.4GB) based on Pandas and trained the model using LightBGM.