

Yunzhe (Josh) Liu

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EDUCATION

University of Southern California, Master of Science in Computer Science

Los Angeles, California

GPA: 3.77/4.0

Expected Graduation: May 2022

CSCI 570 Analysis of Algorithms CSCI 571 Web Technologies CSCI 585 Databases

Baylor University, Bachelor of Science in Computer Science

Waco, Texas

Major GPA: 3.8/4.0

August 2016 - May 2020

Data structures and Algorithms, Operating Systems, Computer Networking, Software Engineering, Data Mining

WORK EXPERIENCE

USC Computational Social Science Lab, Research Assistant - Los Angeles, CA

September 2020 - Present

YourMorals.org (React.js, Node.js, MongoDB) A survey website for psychology studies

- Re-designed and implemented the UI with React and Bootstrap, backend API service with Node.js and MongoDB
- Designed a NoSQL schema based on the relational schema data to improve scalability and simplify development
- Migrated old website from on-premise server in php & MySQL to AWS cloud platform with existing data and users
- Designed highly available, cost-effective, scalable system using AWS Services for users around the world and over 200 daily active users
- Designed and implemented role based admin functionality to let researchers publish study and collect study data

Neural Text Analysis Pipeline (NTAP)

- Involved in development, debugging and testing the NLP python library package NTAP using TensorFlow

VIPShop, Software Developer Internship - Guangzhou, CHINA

May 2018 - August 2018

- Optimized the Warning expression evaluation algorithm of cloud server with Java by 50%
- Developed a Monitor in Python to monitor the logging system
- Analyzed on the JIT implementation of Java String.indexOf() function and benchmark on current string matching algorithms using jmh

Baylor University, Software Developer - Waco, TX

August 2019 - January 2020

MHealth Hypertension Mobile App

- Created an educational mobile app using React-Native deployed on Android and iOS, with educational video, quizzes and games to teach people in poor country about the danger of high blood pressure and ways to avoid it
- Coordinated and communicated with customer from Baylor Nursing School about the requirements of the mobile app
- Implemented backend of the app using AWS serverless services with user authentication and api service to collect data
- Designed a feature to let user upload a picture of their food and use AWS image rekognition service and NLP to make decision of whether the food would cause hypertension

Baylor University, Undergraduate Research Assistant - Waco, TX

March 2019 - May 2020

Natural Language to SQL Query Conversion

- Conducted research on current studies about converting natural language statement to SQL queries
- Improved performance of existing algorithms with a two-layer structure with an intermediate language
- Utilized NLP tools such as Google Colab, TensorFlow and Spacy to process data and train NLP model

SKILLS

- Languages: JavaScript, TypeScript, Node.js, Python, Java, C/C++, Swift, HTML5/CSS3, SQL
- Certification: AWS Certified Developer – Associate
- Tools: React.js, Express.js, MongoDB, Angular, Docker, Bootstrap, Git, MySQL, Flask, SQL, Linux

PROJECTS

My Mobile Film App (SwiftUI, Node.js)

March 2021 - May 2021

- Built an iOS app with SwiftUI to display the current popular movies/tv shows and search functionalities with watchlist
- Coded the backend in Node.js, API service from TMDb and hosted on AWS Elastic Beanstalk

Films Web app (Angular, Node.js)

January 2021 - March 2021

- Wrote a responsive web app with Angular and TypeScript to display the top rated movies and tv shows and related
- Implemented the backend in Flask hosted on Google Cloud Platform

Archway Capstone Management System (React.js, MongoDB, Docker)

January 2020 - May 2020

- Built a content management system that users can view, upload and modify a capstone showcase
- Utilized Docker and Docker compose to manage React.js frontend, Strapi.io and MongoDB as backend
- Implement highly configurable component such as themes, information pages and role based access control

Shiip Network Protocol

August 2019 - December 2019

- Designed and implemented a TCP based data transfer protocol and a UDP based domain name protocol in Java, along with a set of scalable and secure clients and servers using Java Asynchronous I/O with SSL, used Test Driven Development with JUnit