

BOSHEN ZHANG

Los Angeles, CA | (540) 497-4082 | boshenzh@usc.edu | linkedin.com/in/boshen-zhang | github.com/boshenzh

EDUCATION

University of Southern California, Viterbi School of Engineering, GPA: 4.0/4.0

Los Angeles, CA

Master of Science, Computer Science (Intelligent Robotics)

Jun 2023 - May 2025

Coursework: Algorithm Analysis, Machine Learning, Robotics

Virginia Tech, GPA: 3.60/4.0

Blacksburg, VA

Bachelor of Science, Computer Science & Mathematics, *magna cum laude*

Aug 2018 - Dec 2022

Coursework: Database Management Systems, GUI Programming, Human-Computer Interaction, Mobile Software Development, Cryptography, Issues in Scientific Computing

EXPERIENCE

Virginia Tech, Blacksburg, VA | *Research Assistant*

Aug 2022 - Dec 2022

Conduct qualitative study on the impact of integrating practical skills and co-curricular activities into the CS curriculum

- Analyzed open-ended responses from over 200 students by thematic analysis and evaluated impact of practical skills on their outside computer science activities such as internships, undergraduate research projects, and hackathons
- Processed and lemmatized over 750 open-ended responses utilizing Natural Language Toolkit (NLTK) with Python, then leveraged Pandas to organize and analyze student feedback, therefore identifying recurring themes within students' responses
- Compared student responses using sentiment analysis, examined emotional insights and visualized sentiment patterns for 5 consecutive semesters

Virginia Tech, Blacksburg, VA | *Software Engineer*

Aug 2021 - May 2022

Develop effective model for drunk driver interdiction game. Given a limited policing resource and the information of historic DUI driving events, this project is to build a model to study how to set up optimal policing resources to prevent DUI events.

- Designed a website has been used as a teaching tool for K12 students for 2 semesters, reaching 100 daily active users
- Implemented a website with JavaScript, Express.js, jQuery, Bootstrap, specifically designed to manipulate and showcase behavior of a drunk driver linear model built in Pyomo
- Processed Asynchronous HTTP request with Ajax and maintained and analyzed user behavior data with MySQL.
- Reviewed and debugged website with regular updates based on weekly presentations within a group of three.
- Awarded **Finalist for IISE DAIS Mobile/Web App Competition (2022)** and **4th place for IISE Annual Conference & Expo (2022)**

Share App, Washington, DC | *Software Engineer Intern*

May 2021 - Aug 2021

Involved in development of SHARE App, a digital video environment for people to trade items in local areas.

- Implemented and arranged a user system and its APIs for clients to access database and deal with variety of requests
- Migrated dataset from MongoDB to DynamoDB with new and higher-efficiency table design, and prepared the database for Machine Learning functions
- Coordinated with coworkers using Bitbucket and Jira under Agile software development cycle and resolved more than 20 tickets

PROJECTS

Smart Search | Project Lead, Frontend Developer

Mar 2022

Developed a chrome extension enabling synonyms, images, and video search as a smart alternative for Ctrl + F

- Led a team of four software engineer, Built frontend application with JavaScript leveraging semantic UI, and developed synonyms/image recognition and highlighting feature accomplishing 87% search accuracy
- Troubleshooted during development and published chrome extension on Google Cloud within required 36 hours
- Awarded **Overall 2nd place for VTHacks IX Hackathon**

Wildlife Tracker App | Project Lead, IOS Developer

Aug 2021 - Dec 2021

Headed a team of four to upgrade and implement an IOS application for early detection of wildlife diseases accompanying a website

- Revamped previous features and developed new features encompassing login credentials, picture upload, and geo-location targeting with Mapkit; Maintained user data using CocoaPods and Firebase
- Designed and wireframed an IOS application with SwiftUI, Obtained 300+ user feedback on final deliverable

TECHNICAL SKILLS

Robotics: ROS, NumPy, Kinematics, Localization, Mapping, Motion Planning

Tools: Git, Linux, Pandas, HTML/CSS, Docker, Jupyter, Unity, jQuery, Bootstrap, AJAX, MS Office

Programming Languages: Python, Java, C, Swift, SQL, MATLAB, Mathematica, C#, Bash, Node.js, JavaScript

LEADERSHIP & INVOLVEMENT

Member: General Secretary, Council of International Student Organization (2019 - 2020); Member, University Robot Team, RoboGrinder (2021 - 2022)