Zachary Macke

zachmacke@gmail.com | 712-790-8439
zachmacke.com

Education

University of Iowa, Iowa City, IA   May 2020
Major: B.S. Computer Science & Mathematics

Internship & Work Experience

Charles Schwab, Software Engineer 1   Jun. 2020 – Present
- Native Android developer working with Kotlin and Java to port existing client facing web experiences to the mobile platform, including beneficiary's functionality, debit card management, and view-only grant access workflows.
- Developed internal modules utilized for Android developer onboarding with the MVI architecture, Kotlin, and RXJava.
- Reduced the Preferences and Permissions team's backlog to zero while maintaining 75% Unit/UI test coverage with Cucumber and Espresso.

University of Iowa Hydroinformatics Lab, Software Engineer (Web & Data Science)   Aug. 2019 – Apr 2020
- Refactoring the Clear Creek Watershed Information System (iowawatersheds.org) from Angular to React and converting ArcGIS API's to utilize Google Maps Platform.
- Assist in the development and design, both client and server side, of the information system's decomposition into individual components such as Hydrology, Geomorphology, and Socio-Economic tools.

The Walt Disney Company / ESPN, Software Engineering Intern   Jun. 2019 – Aug. 2019
- Implemented and developed a redesign of ESPN.com's article page which is utilized across all articles on the site. Refactored the page to ReactJS across the data flow from data parsing to content display.
- Assisted the Site Development/Consumer Products team with the development and maintenance of ESPN.com and its editions, from the ESPN.com front page to scoreboards, player cards, and more. Utilized ReactJS, Redux, HTML, Tea and CSS.
- Followed Scrum methodology best practices, with daily stand-ups and two-week sprints, to provide timely product updates that have been thoroughly tested.

Collins Aerospace, Data Science Intern   May 2018 – May 2019
- Implemented and trained Convolutional Neural Network architectures in Tensorflow to display an emoji corresponding to the user's emotion above their head in real time for use on a Nvidia Jetson TX2.
- Developed an internal tool which utilized facial recognition in Tensorflow, Google Calendar, and Gmail API's to scan a conference room, detect who is missing based upon the Google Calendar guest list, and email said missing attendees.

Programming Projects

Finger Game (JavaScript, Python)
- HackISU Fall 2018 project that is a simple web game that allows the user to hold up corresponding number of fingers to which the game requests as many times as possible within the allotted time.
- Utilized a self-trained object detection system trained using darknet with a tiny yolo model and the Flask microframework with JavaScript on the front-end.

StackBot (Python & Natural Language Processing)
- Command line chat-bot, responds with the highest rated Stack Overflow answer to a user-inputted Python related question.
- Utilized Google Big Query and a Natural Language Processing model (doc2vec) to predict the best answer.

Skills & Involvement

Proficient: JavaScript, ReactJS, Python, Haskell, HTML, CSS (Sass), Kotlin (RxJava, Cucumber and Espresso), Java
Familiar: NodeJS (Express), Redux, Swift, SQL, C++, PHP, Google Cloud Services / Maps Platform, AWS, and Tableau
Relevant Coursework: Data Structures, Discrete Structures, Object Oriented Development, Algorithms, Calculus I-III, Linear Algebra, Operating Systems, Theory of Computation, Parallel & High-Performance Computing, Programing Language Concepts