Amir Modan

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EXPERIENCE

- Junior Software Developer at Hydropoint Data Systems — April 2023 – Present
  - Developed cutting-edge web applications for the purpose of water bill data Quality Control (QC) and customer operations.
  - Automated data-entry for water bills by parsing excel and pdf bills, then executing ingestion tasks periodically, saving data analysts up to 15% of time spent each month.
  - Streamlined internal task assignment for both Data Services and Customer Success teams by automatically creating and assigning Salesforce cases.
  - Designed a dashboard for Customer Support for identifying trends in Return Merchandise Authorizations (RMA's) such as Year-Over-Year costs and product lifetime.
  - Improved software QC by creating automated unit tests using Selenium.
  - Technologies used include Django, React.js, Typescript, AWS (Lambda, S3, Textract, Terraform), Selenium, jQuery, PostgreSQL, Redshift, Docker, and Salesforce.
- Research Assistant at SFSU — February 2021 – December 2022
  - Developed and tested *MyoHMI*, an Android-based Neural-Machine Interface capable of recognizing a user's physical intent from muscle signals using AI, useful for medical applications such as Stroke Rehabilitation and Amputees; Additional technologies used include BLE and TensorFlow Lite.
  - Designed an Android app to be used with the *T'ena Sensor* from the T'ena Health Group. The app allows users to record and view IMU data received from the sensor after performing sets of exercises. Technologies used include AWS (Lambda, RDS, S3), Docker, MySQL, and Bluetooth Classic.
- Information Systems Intern for SL Corporation — June 2017 - August 2017
  - Assisted in updating hardware and software packages, revising documentation, installing computer and network systems, removing malware and other security threats, monitoring computer system backups, and preventing data corruption.

EDUCATION

San Francisco State University, San Francisco, California — August 2020 – December 2022
Degree: M.S Electrical & Computer Engineering — GPA: 4.00

San Francisco State University, San Francisco, California — August 2018 – December 2021
Degree: B.S Computer Engineering — GPA: 3.93

PROJECTS

- Remotely led a team of 6 in designing a Full-Stack Web Application using Bootstrap and Express for front and back ends; AWS EC2 used to host server.
- Developed a Desktop-Based Neural-Machine Interface in Python similar to MyoHMI using Deep Learning Convolutional Neural Networks as the Classifier and BLE for communication; TensorFlow used as a library.
- Assembled an MCU-Based Security System to detect theft and report status to the user via an online server using C and Python to program an ARM-based MCU and Raspberry Pi, respectively.
- Built an ARM-based MCU-Based Quake Detector to detect Seismic Activity; Also capable of entering a Hibernation State when overheating.

SKILLS

- Languages: Python, HTML, CSS, JavaScript, Typescript, PostgreSQL/MySQL, Terraform, Java, C/C++.
- Platforms: Web Development, AI, AWS, Mobile, Embedded Systems, UNIX.
- Frameworks: TensorFlow, Pytorch, Django, Textract, Bootstrap, React.js, Next.js, and Node.js.
- Comfortable with GitHub, Atlassian, Salesforce, AWS, Soft. Engr. Processes, Microsoft 365, and Zoom.

PUBLICATIONS

- Charmayne M. L. Hughes, Bao Tran, Amir Modan, and Xiaorong Zhang, "Accuracy and Validity of a Single Inertial Measurement Unit-based System to Determine Upper Limb Kinematics for Medically Underserved Populations"
- Bao Tran, Xiaorong Zhang, Amir Modan, and Charmayne M. L. Hughes, "Design and Evaluation of an IMU Sensor-based System for the Rehabilitation of Upper Limb Motor Dysfunction, August 21-24, 2022.