// BRIAN TOM

EXPERIENCE

Smart Home IoT Project Lead @ California Plug Load Research Center, sponsored by Southern California Edison (SCE)

Irvine, CA | March 2018 – July 2020, Lead since September 2019

- Led the research team using Agile techniques (Scrum) to drive better communication and produce demonstration-ready products
- Developed infrastructure for energy usage management system utilizing smart plug and sensor data running on Python, MQTT, and MySQL, which interfaces with Slack, Google Home, and our custom web application
- Designed MySQL database schema for storing and retrieving energy usage data from Smartenit API
- Consulted with developers of new smart devices to discuss how they can provide useful consumer interaction
- Conducted interviews with candidates and recommended them for various research teams
- Developed Raspberry Pi API to control GPIO pins remotely over the local network using a RESTful API

Software Engineering Intern @ Lam Research

Fremont, CA | June 2019 – September 2019

- Developed desktop application with PyQt to categorize data and train supervised machine learning models for analyzing equipment test results, providing troubleshooting guidance to technicians
- Integrated data from SQL server, QuickBase's API, and various data dumps to summarize failure categories automatically via machine learning
- Identified manufacturing and testing failures in a clean room environment

Reader for Intermediate Programming (Python) @ UC Irvine

Irvine, CA | January 2018 – March 2018

- Aided the professor in grading student work using automated Python scripts, generating statistical data, and verifying testing materials

Software Developer @ Engineers for a Sustainable World, UC Irvine

Irvine, CA | September 2016 – December 2017

- Developed Digital Waste Bins, a set of responsive, graphical information panels for aiding people in waste separation at university food courts
- Programmed in Python using Pygame for visuals and sensor reading, with Tkinter GUI for display setup
- Researched methods of displaying text and images on screens with the ability to react to user interaction

CONTACT INFORMATION

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EDUCATION

University of California, Irvine

Irvine, CA | July 2020
B.S. in Computer Science and Engineering, 3.81 GPA

RESEARCH

- Ramirez, A., Lee, S., Kasat, S., Tom, B., et al. (2019, May). *Plug Load Data Collection System for Energy Management Applications*. Poster session presented at annual Calplug Workshop at UCI.

PROJECTS

- Telemetry Application: UWP app for monitoring and analyzing racecar telemetry data in real-time and from recorded data
- Digital Waste Bins: digital display of rotating images indicating what should go in each colored trash bin

SKILLS

Programming

- Python, C++, Machine Learning, Git, Full Stack Development (JS/HTML/CSS), SQL, API Use and Creation

Communication

- Team Management, Leadership, Scrum

Languages

- English – Native