Casey T. Morris

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EDUCATION

UNIVERSITY OF WISCONSIN-MADISON Madison, WI
Master of Science in Electrical Engineering, GPA: 3.8/4.0 May 2016

UNIVERSITY OF NOTRE DAME Notre Dame, IN
Bachelor of Science in Electrical Engineering Magna Cum Laude, GPA: 3.800/4.000 May 2014

EXPERIENCE

SONANCE Remote
Senior Software Engineer Jan 2023-Present

- As a member of the electronics research and development team, my primary role was building out proof of concept features for next generation connected audio products
- Developed feature requirements documents working closely with product, support, and hardware engineering
- Utilized AWS Resources (Lambda, API Gateway, RDS, DynamoDB, VPC, Amplify) to build a cloud-based end to end device OTA management solution with industry specific requirements
- Deployed ReactJS frontends for device management dashboard and local amplifier configuration management
- Created custom python applications and libraries for configuring audio pipelines on embedded Linux devices
- Implemented custom SSH Certificate Authority and secure artifact signing functions in the cloud using AWS KMS

WAEV Technologies, Inc. Charlotte, NC
Engineering Lead (Consultant) 2023-Present

- Responsible for all engineering for the Waev HW and SW platforms, including specialty HW running Android 8 with custom APK, NodeJS backend running on AWS, and ReactJS dashboards for application management
- Jetpack Compose toolkit used for the native Android UI responsible for displaying dynamic venue specific content
- NestJS framework used for REST API, with authentication handled via Auth0
- Implemented various ad-tech solutions, including custom PrebidJS wrapper, for monetization

ORRO Charlotte, NC/Remote
Senior Embedded Engineer / Program Manager July 2018-Nov 2022

- PM for Orro S new product launch, overseeing all efforts from EVT through launch, reporting to CEO
- Created custom Java/Kotlin application for core architecture implementation on custom hardware
- Defined and implemented core lighting controls, Orro REST and PubSub API, and OTA update processes
- Using Yocto, built custom Linux OS, various drivers, U-boot customizations, SensorHAL layers, JNI libraries
- Developed firmware for PIC16, Cortex M0/M4/M7, and Cypress PSoC processors for features incl.: multi-phase dimming, voltage, current, power sensing and calculation, and novel multiway toggle support
- Maintained and supported Android and Yocto build system CI/CD, utilizing Jenkins, Docker, and GitHub Actions
- Ported audio recognition library tensorflowlite to ARM core with custom JNI wrapper for use in JVM app
- Designed, implemented, and supported system level manufacturing tests and processes to facilitate production

RAYTHEON (DoD Clearance: Secret, Inactive) Various, USA
Member, Rotational Engineering Leadership Development Program (RELDP) June 2016-June 2018

- Program lead overseeing product from design through production, customer management and integration effort
- Development of FW for communication between proprietary systems and Sony, Canon, and Hitachi cameras
- Primarily responsible for design of guidance, telemetry, and payload delivery functionality using RTI DDS

EXTRACURRICULAR PROJECTS

SparkLocal iOS App *(Personal Project)* *Summer 2023*

- Using SwiftUI, built iOS app to control Orro switches on the local network. Relied on Bonjour to discover devices on the local network and websocket API to send command to control lights

SparkDirector Android App *(Personal Project)* *Spring 2020*

- Built Android app to control smart switches (e.g. Orro) and lights (e.g. Phillips) via IFTTT from one central UI
- Implemented the MVVM architecture with a Firebase backend for real-time database and authentication

Various Raspberry Pi and Web App Projects *(Personal Projects)* *Spring 2016-Present*

- Developed RPi based PhotoBooth used at my wedding. Guests text to snap (via Twilio), replied with picture
- Implemented a backup camera to retrofit any car using RPi to stream live video to smartphone via WiFi AP mode
- Devised an analytical model to rank college football teams and to predict game scores based on past performance
- Designed a Django web app where users predict CFB game results, competing against the predictive model
- Created Korean fantasy baseball site using a VueJS frontend, Firebase backend, and custom python web scrapper
- Implemented an Arduino based locking and lighting system using IR & RFID receivers, servo motors, relays, etc.

SKILLS

Technical: Kotlin, Python, Java, C/C++, Javascript/Typescript, SQL, ReactJS, NodeJS, Firebase, AWS, GCP, Git
Academia: Published in *IEEE Transactions on Power Electronics* and 15 other IEEE journals and proceedings