

Education

Missouri University of Science and Technology (Rolla, MO) — **August 2009 – May 2013 (4 years)**

B.S. in Computer Science, B.S. in Computer Engineering, Minor in Mathematics

Experience

Sabbatical (Self-Employed - Online Store) — **Bellevue, WA**

Projects & Accomplishments

December 2018 – December 2022 (4 years)

- Consulted for major LED fiber-optic whip company to advise/design new product architecture and PCB.
- Designed an open-source PCB to drive professional HUB75 scan type LED panels with a \$4 commodity microcontroller (ESP32), with accompanying software library for animations and Wi-Fi controls.
- Prototyped cheap, long-range (LoRa) GPS/chat device to assist medical teams at large (30,000+) events.
- Designed, tested, deployed, and maintained several redundant solar power grids (ranging from 200W-1.2kW) for repeated use in harsh (115°F), high-wind desert environments.
- Designed and sold several PCBs to modify retro electronics to charge with USB-C, according to spec.
- Designed, deployed, and maintained several new static websites for various customers (Jekyll).
- Deep dive into Android .apk “patching”: modifying existing apps to provide extra functionality.
- Reverse-engineered and documented several popular USB-PD trigger boards with unmarked ICs.
- Designed several open-source LED art projects as well as immersive mobile Tensorflow AR art.

Microsoft Corporation (FTE) — **Redmond, WA**

Software Engineer 2 at Microsoft CRM (Dynamics 365)

July 2013 – December 2018 (5.5 years)

- Developed new mobile device testing infrastructure and automated test cases (built for Selenium).
 - Built and maintained a physical/virtual device lab for automated checkout and test case execution.
- Sole owner of testing several product areas, including all testing and validation for an entire box product.
- Maintained several product codebases, including bringing multiple unique CRM client applications into compliance with new accessibility guidelines and GDPR within extreme time crunch.
- Developed a system to validate customer’s customizations to our CRM software, ensuring future updates/upgrades complete successfully with no impact to functionality.

Software Engineer in Test at Microsoft CRM (Dynamics 365)

- Designed & executed custom solution for a time-sensitive, critical migration of massive test case database.
 - Existing migration solutions did not work with our existing database or did not satisfy the project requirements for complex interdependent relationships and multi-select options.
 - Over 35,000 test cases were successfully migrated on time, with all data intact.
 - Partnered with all teams across our CRM product to verify their needs were met throughout the process, including adjustments to automation running/reporting/dashboards.
- Orchestrated daily testing of our offshore vendor team, increasing test execution throughput to cover all supported client/OS combinations, as well as development of new automated test cases.
- Built/maintained several shared critical environments needed by team to test different customer scenarios.

Volunteering (Microsoft)

- Head Recruiter at University
- Coordinator for Intern retention
- Maker Garage (Drones) Chapter Lead
- 2014 Hackathon project was successful and developed into full CRM product feature.
- 2016 Hackathon project (AR) awarded by Senior Leadership and demoed to U.S. DoD.

Volunteering

- Volunteer AP CS Teacher at Issaquah High School (TEALS)
- Volunteer Game Developer for local ACM Coding Competition
- Life Member of KKKΨ (Honorary Band Service Fraternity)
- Volunteer First-responder and Stage Lead in Harm Reduction (local shows up to 30k patrons)
- CPR, AED, and First Aid Certified

Internships

- Programming Internship at Electric Coop, working on Smart Meter dashboards + predictions.
- Hired as part-time Developer to continue working during school.
- Undergraduate Research Assistant, worked on a 3D slicer for a 6-axis robot arm which used a laser to perform deposition of powdered metals.