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Rory O. Hayes

Software & Computer Engineer 2

github.com/rorosaurus

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.
- As Drones Maker Garage Chapter Lead, designed new hardware for a low-cost, low-latency drone tracking solution. This was deployed for a Maker Garage customer and later the drone community at large.

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.
- Intern Social Club Leader (April 2014 – December 2018)
    - Worked with University Recruiting to organize dozens of events for ~30 interns every summer, maximizing their experience with Microsoft and Seattle, and converting many to full-time.
- Head Recruiter for recruiting trips to several Midwest Universities (September 2014 – September 2016)
    - Attended career fairs, sorted resumes, conducted interviews, guest spoke/taught classes.
    - Worked with campus faculty/leadership to develop ongoing relationship with Microsoft.
    - Went from an average of 0 hires/year in 2013 to 19 hires/year in 2019!
- 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.

C.A.R.E. 501(c)(3) - prev. known as Conscious Crew (USC Events)——— **Seattle, WA**

Volunteer and Stage Lead   *October 2016 – Present*

- Harm reduction non-profit which promotes health and safety in the dance music community in Northwest.
- First responder to medical emergencies at dozens of large, high-risk concerts and outdoor festivals.
- As a lead, personally responsible for coordinating the efforts of several dozen volunteers to ensure the safety of 30,000+ event attendees across difficult terrain and weather conditions.

Technology Education and Literacy in Schools (TEALS)——————— **Issaquah, WA**

Volunteer Teacher   *September 2016 – May 2017 (1 year)*

- Taught high school students AP Computer Science 3 days/week before heading to work.
- Developed curriculum (Java), tests, quizzes, homework, labs, grading, projects, etc.
- Conceived, documented, and executed a new post-exam project for TEALS: students created an Android app to control a Drone, plot a mission course, and frame/record video footage.
- 95% of students passed exam and received college credit; 50% of students got the highest grade possible!

National Information Solutions Cooperative (NISC)——————— **Lake St. Louis, MO**

Programming Intern / Part Time Developer   *May 2011 – December 2012 (1.5 years)*

- Created a dashboard (using Java/GWT) for electric company customers to predict future electric load based on research models and previous usage data. Other factors like current/upcoming weather patterns were also included. These models were used by electric companies to anticipate future electrical grid load.
- Smart meter data for dashboard was retrieved from Cassandra cluster and bucketed by Hadoop.
- Built internal tooling around cloud clusters, using Ganglia to monitor cluster statistics.
- Mentored several new interns, helping them take their own projects from start to finish.

Product Innovation and Engineering, L.L.C. ——————— **Rolla, MO**

Undergraduate Research Assistant   *October 2010 – May 2011 (6 months)*

- Developed an industry-grade program that analyzes a 3D model, slices it into layers, and then guides (G-code) laser deposition of a powered metal. The laser was mounted to a 6-axis robotic manufacturing arm repurposed from a car manufacturing assembly line.
- Served as the primary contact with an external consulting group we hired to develop several algorithms, and ultimately responsible for integration into our product source code.

ACM SIG-Game ————————————————————— **Rolla, MO**

Competitor / Volunteer Developer   *August 2010 – May 2013 (3 years)*

- Updated our code generator to expand and improve the limited Java language support.
- Revised internal tooling and introduced new standard development tools for the team.
- Improved testing infrastructure for the backend and client libraries as a class project.

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

Interests

- Recruiting/Mentoring
- Skiing, Soccer, Bouldering
- Trumpet (Concert, Jazz)

- Maker/LEDs/Electronics
- Puzzles & Coding Challenges
- Teaching (and Learning!)

- InfoSec, Privacy, Human Rights
- Hackathons, micro-projects
- Right-to-repair, sustainability

Certifications & Honors

- Life Member of Kappa Kappa Psi, the Honorary Band Service Fraternity
- CPR, AED, and First Aid Certified