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| <https://roryhay.es> [roryohayes@gmail.com](mailto:roryohayes@gmail.com) | **Rory O. Hayes**  Software & Computer Engineer | [github.com/rorosaurus](https://github.com/rorosaurus) |

# Experience

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| Sabbatical (Self-Employed - Online Store)  **Projects & Accomplishments** | ***Bellevue, WA***  ***December 2018 – December 2022 (4 years)*** |
| * Consulted for major LED fiber-optic whip manufacturer 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) emergency GPS/chat device to assist medical teams at large events. * Designed, tested, deployed, and maintained several redundant solar power grids (ranging from 200W-1.2kW) for repeated use in harsh desert environments. * Designed and sold several PCBs to modify retro electronics to safely charge with future-proof USB-C. * Designed, deployed, and maintained several new static websites for various customers. * Deep dive into Android .apk “patching”: modifying existing apps to provide extra functionality. Contributed to open-source projects to create new functionality in YouTube and improve documentation. * Created public documentation for 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  **Software Engineer 2 at Microsoft CRM (Dynamics 365)** | ***Redmond, WA***  ***July 2013 – December 2018 (5.5 years)*** |
| * Developed new mobile device testing infrastructure and automated test cases.   + 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 all 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)  **Volunteer and Stage Lead** | ***Seattle, WA***  ***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)  **Volunteer Teacher** | ***Issaquah, WA***  ***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)  **Programming Intern / Part Time Developer** | ***Lake St. Louis, MO***  ***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.  **Undergraduate Research Assistant** | ***Rolla, MO***  ***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  **Competitor / Volunteer Developer** | ***Rolla, MO***  ***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

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| 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

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| * 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