I do the whole thing: programming in any language, build engineering, system administration, devops/site reliability, distributed system architecture, ops and monitoring. I'm passionate about using - and making - automation to detect or avoid quality defects. I love to solve hard problems with technology. And I use code reviews, documentation, and goofy slideshow presentations to teach and share those solutions with team members.

EXPERIENCE

Software Engineer III, Riot Games - R&D (Bellevue, WA)

September 2023 - Present

• Unannounced game project.

Senior SDE, Principal SDE, Microsoft - Xbox Game Streaming (Redmond, WA)

January 2020 - September 2023

- Architected and implemented cloud-based "test lab" infrastructure, services, agents, framework integrations, and reporting to automate test execution on various product applications. (Azure, Docker, Windows, WebDriver, Selenium, Appium, C#, ASP.NET, TypeScript, NPM, Terraform)
- Contributed to numerous cross-team projects and frameworks for automated testing, service health monitoring, and product telemetry analysis. (Azure, Azure DevOps, C#, TypeScript, NPM, Kusto)
- Developed tooling and processes to actionably diagnose user feedback and bug reports. (C++, C#, ASP.NET, TypeScript, NPM)
- Led my dev team's code quality standards, build and release workflow architecture, monitoring routines, and security policy compliance.

Software Engineer II, Senior SDE, Microsoft - 343 Industries (Redmond, WA)

April 2017 - December 2019

- Developed user-facing functionality for Halo Infinite. (C++)
- Implemented and analyzed performance telemetry for asset-pipeline tools. (C++, C#, Kusto)
- Spearheaded an initiative to improve narrative tools and functionality. (C++, C#)
- Built a team targeting development-lifecycle and productivity improvements, focusing on processes to streamline build stability and incident responsiveness.

Senior DevOps Engineer, Wargaming Seattle (Redmond, WA)

May 2016 - March 2017

- Created a continuous build, test, and deployment system for a fleet of microservice applications, allowing the team to stabilize application delivery in the run-up to a full release. Re-engineered existing build processes to optimize iteration time. (Jenkins, Docker, Mesos/Marathon, Consul)
- Created, administered, and monitored deployment infrastructure to support in-house developers as well as external customers. (CentOS, AWS, Puppet, Sensu, PagerDuty)
- Developed and debugged application features, and participated in core development code reviews. (Java, Nginx, Go)

DevOps Engineer, Glu Mobile (Bellevue, WA)

May 2015 - May 2016

• Monitored, maintained, and enhanced both development and production infrastructure for *Deer Hunter* 2016 leading up to and following a worldwide launch. Investigated and resolved issues in

- infrastructure and in code. This game was determined to be Glu Mobile's most cost-efficient-per-user title as of April, 2016. (AWS, Docker, TeamCity)
- Drove continuous measures to increase service reliability for *Deer Hunter 2016*, especially the rapid detection of potential health issues, and the reduction of false health alarms. The game service experienced almost no downtime during this period. (Grafana, Sensu, PagerDuty)
- Developed and debugged game server features for *Deer Hunter 2016*, and participated in core development code reviews. (Java, Unity)
- Maintained and debugged studio-wide technologies. (Perforce, TeamCity)

Software Engineer,

May 2009 - May 2015

Senior Software Engineer, Nintendo of America (Redmond, WA)

Developed application features, backend functionality, and build systems for multiple Nintendo game console system features and game-developer tools: Nintendo Zone, an application and service for marketing partners to provide HTML-based content to Nintendo 3DS users (C++, GNU Make, HTML, CSS, Perl, MySQL); Nintendo Web Framework, a Webkit-based game dev environment and runtime for Nintendo Wii U (CMake, GNU Make, MinGW-GCC, C++, distcc); Nintendo Dev Interface, a tooland dependency-management service to support Nintendo Wii U game developers (C#, OAuth, PHP, Javascript); Nintendo Developer Portal, a web-facing system for developers and publishers to create and submit games (Python, Puppet, Java).

Embedded Software Engineer, Adeneo Embedded (Bellevue, WA)

May 2008 - April 2009

 Drove the development of .NET Micro Framework technology within Adeneo and in cooperation with Microsoft. Implemented basic hardware/peripheral drivers, as well as new features including audio playback and PWM control. (C/C++, C#, ARM)

Associate Engineer, Nintendo Software Technology (Redmond, WA)

May 2007 - May 2008

• Researched and developed emulation optimizations and corrections for *Virtual Console 64* to adapt Nintendo 64 games for the Nintendo Wii. Improvements in emulation accuracy allowed for the release of new games on the service including *Mario Golf.* (C/C++, PowerPC, MIPS)

EDUCATION

DigiPen Institute of Technology (Redmond, WA)

Winter 2004 - Spring 2008

Bachelor of Science in Computer Engineering, Minor in Mathematics. Academic experience including circuit analysis, microcontroller programming, embedded system design, assembly programming, and C/C++ development.

SKILLS

- From-scratch development and legacy debugging/maintenance of projects in diverse languages and environments: Bash, C/C++, C#, Java, JavaScript/TypeScript, Perl, Python, and many others.
- Build engineering, from Makefile authoring, SCM administration, and toolchain management to automated test integration, release management and continuous deployment (CI/CD).
- Infrastructure architecture and operations, including Linux system administration, Docker container builds and execution, network security management, log and metrics monitoring, and various cloud service integrations in Azure and AWS.