Danny McMurrough

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🖥 PROFESSIONAL EXPERIENCE

Sr. Software Engineer (Backend) | Calendly, Remote | March 2024 - *Present*

- **Database Concurrency:** Reversed engineered underlying architecture to implement custom pre-loading logic, and enhanced database concurrency handling improving performance and enabled scalability.
- **Performance and Reliability Enhancements:** Reduced monolithic build times from 30 minutes to 12 minutes and increased build reliability from ~40% to 99% by redesigning the build caching and updating underlying infrastructure.

Sr. Software Engineer (Fullstack) | Qualtrics, Remote | October 2022 - March 2024

- **Backend Design for Toolchain:** Designed, built, and maintained a high-performing toolchain for advanced resilience and performance testing tools, comprising 10 different microservices. Implemented an auto-scaled ECS pipeline from scratch handling heavy resource requirements while keeping costs at a minimum.
- **Shadow Testing in Production**: Architected a shadow testing service suite capable of handling 100K TPS and production traffic at load, with advanced analytics in Elasticsearch. Used eBPF for request/response capture, container networking for traffic replay, and auto-response comparison to identify discrepancies between production and test environments.
- **UI Developer Portal**: Developed a React-based UI developer portal integrated with Golang backend and Elasticsearch DB, providing a comprehensive platform with SSO authentication, real-time monitoring dashboards, API integrations (Swagger, SLOs, dependency mapping), and automated deployment pipelines.
- **Deployment Orchestration Service**: Created a deployment orchestration service using Nomad to dynamically deploy, scale, and parameterize tooling across environments. The DevOps team adopted this service and it became a core tool for the engineering organization.
- **Leadership and Mentorship**: Acted as an acting team lead and mentor, supporting two active engineers and mentoring two interns, both of whom were hired full-time as part of the team.

Software Engineer II (Backend) | Qualtrics, Remote | April 2019 - October 2022

- **Improved observability and alerting**: Integrated production-level tracers and dynamic alerting, improving the detection of issues before they affected customers and enhancing system reliability.
- **Large-scale isolation testing**: Designed a robust tool to safely test isolated systems under high load, validating performance and reliability at scale.
- **Fault tolerance testing**: Led company-wide fault testing initiatives, including game days and chaos engineering experiments, which reduced repeat production incidents by 90%.
- **Tool development and training**: Developed and presented internal tools for scalable design and intelligent testing to engineering teams, improving test coverage and tool adoption across the organization.

Software Test Engineer II | Qualtrics, Utah | September 2017 - April 2019

- **Automation and integration testing**: Developed automated test pipelines for backend services and integrated them into the CI/CD workflow, ensuring consistent quality in deployments.
- **Cross-functional collaboration**: Worked across teams to expand integration tests, enhancing the quality of the testing framework and enabling better coordination with development teams.

Software Test Engineer | Gaming Labs International, Colorado | September 2015 - September 2017

- **Protocol analysis and automation**: Automated testing for casino games and proprietary protocols, significantly reducing manual testing time and improving efficiency.
- **Database and system testing**: Conducted extensive database testing and developed automated testing tools that saved hundreds of hours of manual data entry.

🎓 EDUCATION

Bachelor of Science: Computer Science | Oregon State University | June 2017 | GPA: 3.95
Interdisciplinary Honors Program and a specialization in Networking and Security

📁 SKILLS AND PROJECTS

Languages: *Golang, Python, JavaScript, C++, Ruby, Java*

- ***Cloud/Containerization****: AWS, Kubernetes, Docker, Nomad, Helm, Terraform*
- ***Databases****: Cassandra, Redis, Elasticsearch, MongoDB, DynamoDB, Postgresql*
- ***Testing Tools & Frameworks****: Selenium, Pytest, Go Testing, TestNG, Junit, SoapUI, Chaos Mesh, Gremlin, Rspec*
- ***Performance/Load Testing****: Vegeta, Artillery, Gatling, JMeter, Kafka-Loader*
- ***CI/CD****: Jenkins, GitLab, Spinnaker, Vault, Consul, Argo, Buildkite, Nomad*
- ***DevOps:**** Kubernetes, GCP, AWS*
- ***Resiliency:****, Chaos Engineering (AWS FIS, Gremlin), Stress-ng, Pumba*

Projects:

- ***Personal Website****:* danthedev.info *— Built with React.js, TypeScript, Next.js, and styled using TailwindCSS.*
- ***Space Pirate Tower Defense****: Play Now →* danthedev-towerd.info *— A JavaScript game built from scratch using HTML5 canvas*