



CRISTIAN GONZALES

ASSOCIATE SOFTWARE ENGINEER AT NORTHROP GRUMMAN

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EXPERIENCE

Northrop Grumman

Associate Software Engineer

July 2019 – Present

- Migrated the build systems of two legacy codebases to Apache Maven to have a unified build system across all Java codebases and reduce complexity for developers learning the build (the former build system in place for one codebase was Apache Ant, and there was no build automation system for the second codebase).
- Created and maintained Jenkins CI/CD pipelines to streamline build processes in different target environments—namely, Linux, Solaris, and Windows.
- Developed and maintained shell and Perl scripts to streamline build processes, callable by both configuration management and the Jenkins agent (instantiated by the Jenkins server).
- Maintained Java code in Red Hat Enterprise Linux (RHEL) and Windows environments, which included implementing a new feature in a minor version release.

Northrop Grumman

Software Engineering Intern

June 2017 – August 2017

- Interfaced with NASA's GMSEC API to build a proof-of-concept visualization tool which tracked health statuses of satellites. This inspired a new feature in another Northrop Grumman product.
- Ported ephemeris data, via web sockets, across multiple Northrop Grumman domains/applications.
- Implemented basic dependency injections, using the Google Guice framework, across the codebase.

EDUCATION

University of California, Santa Cruz

Computer Science, B.S.

June 2016 – June 2019

PROJECTS

Fault Tolerant and Scalable Key-Value Store (KVS)

A scalable Docker cluster of nodes that is fault tolerant and eventually consistent.

- Nodes were designed using a RESTful API interface (Python Flask), so clients may use the KVS and add nodes.
- Favors availability over strong consistency, per CAP theorem, so eventual consistency is guaranteed in light of network partitions, with a property of bounded staleness for stale data after network partitions are healed.
- After a network is healed, nodes with different values of the same key are resolved by causal order (if they are causally concurrent, ties are resolved using local time stamps on replica nodes).
- Uses consistent hashing to dynamically and uniformly distribute unique keys across all nodes in the network.

SKILLS

LANGUAGES: C, Java, Python, SQL

OTHER LANGUAGES: CSS, HTML, JavaScript, Perl, Swift

SHELLS (AND THEIR SCRIPTING DERIVATIVES): Bash, C, Windows PowerShell

BUILD SYSTEMS: Apache Ant, Apache Maven, make

TOOLS: Docker, Eclipse, Git, \LaTeX , PostgreSQL, PyCharm, Jenkins, Xcode

CONCEPTS: Agile Development (Scrum framework), Build Engineering, Code Coverage, Continuous Integration/Delivery (CI/CD), DevOps, Dependency Injections, Distributed Systems, RESTful APIs

References available upon request.