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Summary

- Full Stack Developer with 4 years experience including exposure to Java, R, TypeScript, JavaScript, HTML, CSS
- Advocate for sound coding practices, Test-Driven Development, and continuous cross-discipline communication.
- Passionate about solving problems and learning new technology. For many years, my friends and I have met for a weekly "code-night" to socialize, hack on new problems, learn new languages, technologies, and frameworks.
- U.S. Air Force veteran with extensive leadership and team player experience.

Skills

Testing   **JUnit, Karma, Protractor, Loader.io**

Task: Provided a rich alternative to JUnit's Theory Scenario paradigm. Used JUnit TestRule concept to re-write how integration tests are written and run. **Impact:** Team members can add new positive and negative test paths with a single, expressive annotation; resulting in increased test coverage. Test methods are faster to develop and easier to read. We were able to achieve a 400% increase in test coverage with a 50% reduction to the test code-base and a significant improvement in readability and visibility. Additionally, developers expanded the test coverage as a part of their normal development cycle, rather than repeated follow-on efforts as a result of peer reviews.

API Frameworks   **Java, Spring, REST, Swagger, Maven, GIS & Geospatial Programming**

Task: Created REST frameworks producing XML, JSON, geo-spatial, and binary content. **Impact:** Frameworks provided a variety of usage patterns including: asynchronous calls to distributed micro-services (both queue-aware and consumer transparent methodologies), rich multi-tenant capabilities, fully version history, deletion aware, and broad operational and management API capabilities.

Task: Worked with the architect to expand the existing Spring REST controller annotations. **Impact:** Provided new and richer behaviors in the same expressive syntax developers were already familiar with.

Internet Application Frameworks   **JavaScript, TypeScript, Angular2+, Java, GWT, GXT, HTML, CSS, Prime-NG, Bootstrap4**

Task: Part of the team that created a holistic cloud framework that allowed rapid development of cloud-based, rich web applications. Used the concept of 'building blocks' to add desired functionality to a code core. **Impact:** This framework won a NASCIO State IT Recognition Award for Enterprise IT Management Initiatives for its innovation and reduced cost to the client through reuse of 'building blocks'.

Task: Solve problems from a full-stack perspective. Uplift the framework technology to a new mobile, responsive web stack. **Impact:** Efforts and results recognized by upper management such that I was charged with doing this full-time.

Data Modeling & Analysis   **R, MySQL, SQLite, MongoDB, Spring Data, Hibernate, QueryDSL**

Task: Developed multiple deterministic and stochastic R models using natural, spatial, and temporal variables to estimate daily groundwater return volume and dissolved contaminant concentration. Created automated scripts generating intermediate and final model results to include multiple sources of uncertainty and measurement error. These scripts also created multiple types of graphical and tabular results using common formatting parameters with provisions for integrating into a large, multi-chapter LaTeX document. **Impact:** Reduced re-analysis cycle time and report re-generation time after each model change.

Task: Responsible for all aspects of data modeling, persistence, and query operation. Familiar with the trade-offs between traditional SQL RDBMS and NoSQL systems. **Impact:** Balanced the clarity and expressiveness of the model with the queryability of the data and right-sizing of payloads for server, mobile, and web environments. Provided meaningful data sets for solid unit test coverage in both SQL and NoSQL systems.

Task: Extensively used R to rapidly prototype possible potable water sanitation design permutations based on EPA requirements. **Impact:** Drastically reduced the time between design parameter determination and final design decision. Used the analysis results to determine the design parameters that held the greatest influence and cost.

Other Skills: **PMI, Geospatial Programming, Statistical Analysis, Data Modeling, Data Visualization**

- Applied PMI practices of scope, schedule, and budget management to multiple civil engineering and software projects.
- Love to work as a force multiplier; getting the job done even though the task may not be in my field of expertise.
- Extensive military leadership training, which is well suited to a corporate and team environment, has allowed me to mentor others to be stewards of their resources and promote personal growth both in and out of the organization.

Relevant Work History

Full Stack Developer   **Six Actual**   **2014 - 2017**

- *Skills used:* Java, TypeScript, JavaScript, Spring, GWT, GXT, AngularJS, Angular2+, JUnit, Karma, QueryDSL, Spring Data, Hibernate, Lombok, Swagger, MongoDB, MySQL, SQLite, REST, J2EE, XML, Maven, Loader.io, IntelliJ, Paw, Postman, Jira, Bitbucket, Git, Linux command line, bash scripts.
- *Role overview:* **Develop:** REST API endpoints, automated unit tests, integration tests, load tests, rich web applications, and various supporting framework elements. **Test:** Setup and use automated testing tools to perform load testing on REST endpoints. Setup and use API testing tools to determine input parameter restrictions and returned data types for endpoints provided by outside agencies. **Database:** Create preliminary RDBMS and NoSQL database structures. Analyze dependencies between data types and implement methods to maintain the dependencies. Create interfaces between databases and business logic. Maintain logic to automatically re-create databases during a testing cycle.
- *Key Projects:* •National award winning application framework. •Precision agriculture and geo-spatial data exchange. • Project management and cost tracking application. • Enterprise credentialing and license management suite. • Configuration and operation management console. •Workforce automation and dispatch platform.

Civil Engineer   **WHPacific**   **2012 - 2014**

- *Skills used:* AutoCAD CIVIL 3D 2009-2014, ArcGIS, Bentley StormCAD, U.S.A.C.E. HEC-RAS and HEC-HMS, EPA LT1ESWTR and LT2ESWTR, Microsoft Project, Microsoft Office, R and Tooling for R, PMI concepts.
- *Role overview:* **Calculate:** Stream channel modifications, pipe network storm drainage additions and modification, water network pressure and flow analysis, construction material quantities, and more. **Design:** Individual drop-structures in natural channels following district guidelines, potable water treatment system, pressure pipe, storm drain, and sanitary sewer networks. **Document:** Create and maintain all documentation supporting design decisions. Create and review design drawings and specifications. Review and approve construction company submittals.
- *Key Projects:* • Managed a small team, including professionals in another state, to design a small half-million gallon-per-day, seasonally operated, water treatment plant. • Designed the improvements for an emergency chlorine gas scrubber I selected for installation at water treatment plant nearing the end of it's life cycle. •Designed the expansion of chemical storage facilities at a water treatment plant to include spill protection, connection to existing facilities, and consideration for plant employee safety. •Used ArcGIS to analyze routes for multiple proposed potable water, storm drain, and sanitary sewer pipelines to include estimates for material and work.

Education

- **Civil Engineering, B.S.**, University of Central Florida, 2008
- **Fundamentals of Engineering Exam**, NCEES, 2008
- **Vehicle Maintenance, A.A.S.**, Community College of the Air Force, 2003

Volunteer Work

- Youth softball assistant coach teaching all aspects of play (except pitching), encouraging the love of a sport.
- Informal coding coach for a small group of local kids, focusing on basic skills using Minecraft and Code Combat.

References - Available upon request.