Ivan Eduardo Guerra

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Education

University of Oklahoma: Norman, OK **Fall 2013 - Spring 2017**

- B.S.E. in Computer Science with minors in Mathematics and Spanish; Overall GPA: **3.95**/4.00
- Graduate Coursework: Cryptography; Computational Complexity; Discrete Optimization; Algorithms; Advanced Databases
- Undergraduate Coursework: Compiler Construction; Programming Language Theory; Operating Systems; Computer Architecture; Data Structures; Databases

Professional Experience

Raytheon - Space and Airborne Systems **June 2017 - Present**

Electro-Optic/Infra-Red Pod (EOIR) Software Engineer

- Increased EOIR C++ test coverage from 22% to 35% by integrating the gcov source code coverage tool into the EOIR build system.
- Discovered numerous memory and threading errors in the EOIR C++ codebase by using the Valgrind Memcheck/Helgrind tools, leading to a team effort to correct the errors prior to proceeding with product development.
- Parallelized the EOIR software build on Windows and Linux by updating legacy Jenkins CI Java configuration scripts, causing a more than 30% reduction in the job queue size.

ExxonMobil - Data and Information Systems **May 2016 - August 2016**

Manufacturing and Supply Applications Engineer

- Automated the process of optimally loading chemical cargo aboard vessels by applying dynamic programming techniques, leading to a 20 hours per week time savings.
- Reduced the frequency of chemical cargo contamination by implementing a Java user interface to assist engineers in accurately managing cargo data.
- Applied user-centered design techniques to create a software requirements document, providing a base set of requirements for continued product development.

Northrop Grumman - B-2 Defense Management Systems **January 2015 - August 2015**

B-2 Display Systems Software Engineer

- Discovered and removed software defects in the Platform System Tool's C++ source code using the GNU Debugger and Valgrind Memcheck, saving software quality assurance engineers over 30 hours of testing.
- Increased Platform System Tool's C++ test coverage from 60% to 68% by implementing over 30 unit tests using the Google Test library.
- Improved the B-2 display system team's API documentation by writing C code snippets demonstrating the intended use and functionality of each method.

Technical Experience - Projects

- **Atari Go** (2017). Command line implementation of the original Atari Go game supporting multiplayer and single player modes. C++, Doxygen
- **Simplex Solver** (2016). GUI-based linear programming problem solver capable of solving nonstandard LPPs and detecting infeasible/unbounded LPPs. Python
- **fdupe** (2016). Multithreaded file duplicate detection program implementing a thread-safe list and map. C, Doxygen

Additional Experience and Awards

- **Teaching Assistant** (Spring 2017): Teaching assistant for a graduate course in cryptography; advised 33 students.
- **Hypercube Scholar Award**: Named a Hypercube Scholar for outstanding undergraduate research in computational biology.

Languages and Technologies

- **Languages**: C++ (proficient), C (proficient), Java (competent), Python (competent), Bash (competent)
- **Testing Tools**: Google Test, GNU Debugger, Valgrind Memcheck/Helgrind, Gcov
- **Version Control Software**: Git, Subversion