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Senior Software Engineer

Profile

A multi-disciplined engineer with ten years of software development experience. Enjoys solving problems with others, values honesty in communications, and has experience planning and delivering products.

Experience

Co-founder/Software Engineer, Black Label Data LLC, 2015-present

Roles: Software developer, marketing, customer development
Objective: ***Simple, private file storage***. I am a co-founder of Black Label Data, a company with a mission of data privacy. We developed Arkham Storage to provide novel, simple, fast, anonymous, cloud file store. The library that provides accessible encryption will also be made available for integration in other applications. My primary role, as a Golang developer, is to write code required for product features.
Technology: Golang, JavaScript, Docker, Google Cloud Platform, NGINX, Git, Github

Co-founder/Software Engineer, Analytical and Collaborative Solutions, 2012- 2015

Roles: Software developer, business strategy, customer development, product design
Objectives:
Improve data analysis for Scientists and Engineers. I co-developed *Adapt*, an extensible, graphical, software framework to generate fast, reproducible, and sharable data analysis. Utilizing Java Swing, Apache Maven, and Apache Felix, *Adapt* provides software developers an API for simple file input or database connections, UI/UX functionality, application templates, and interfaces for intra-application communication.
Automate determination of DNA sequences used for pathogen detection. I designed and co-developed the *GeneCapture Probe Design Gadget*, built with *Adapt*, which enables the engineering of DNA sequences required for a novel pathogen detection process. It searches for specific DNA sequences that are crucial to the design of the detection devices. This gadget was successful by decreasing the company GeneCapture's design phase for each pathogen from eight weeks to two. It is written in Java and C++, and utilizes "Basic Local Alignment Search Tool", software developed by the National Center for Biotechnology Information, as well as other open source bioinformatics software. I also co-developed image processing and classification software, written in Java and Python, used in GeneCapture's prototype hardware.
Technology: Java, Python, MySQL, Bitbucket, Git, Maven

Electrical Engineer/Software Developer, Wyle Inc., 2009-2015

Roles: System engineer, software developer, radar algorithm designer, subject matter expert, data analyst
Objectives:
Improve human survival rates against ballistic weapon attacks. I developed a graphical data analysis tool used by analysts and system designers to understand the electromagnetic sensation capability of a RADAR system against ballistic weapons,

unmanned aerial vehicles, fixed-wing aircraft, and rotary wing aircraft. RADARs have limited physical resources, so the algorithms they utilize to detect and track targets must be highly optimized. The *Sum Power Map Viewer* displays three-dimensional antenna measurements: range, range rate of change, and summation of normalized power, which are viewable as heat map images. These images were used in the final quality assurance step before sale of the system. System improvements originating from this tool improved target detection performance and discrimination accuracy, which gave more precious "take cover" warning time to those under threat.
Improve countermeasures against ballistic weapon attacks. I contributed to the development of a data analysis tool suite, written in Java, that incorporates weapon system measurements, network command messages, and physical defense logic, in order to: calculate performance metrics, provide network timing validation, study target dynamics, and identify system shortfalls. I also designed and maintained the interfaces between these Java libraries and a MATLAB charting tool for systems engineers.
Technology: C++, Java, Python, MATLAB, MySQL, SVN

Volunteer Junior Interviewer, CAS Cares, 2015
Objective: ***Distribute employee charitable contributions with the goal of maximizing the positive impact to the community.*** I participated in interviews with non-profit groups to determine the need and plan for any potential distribution by CAS Cares, which was charitably funded by a subgroup of employees at Wyle. I contributed to small group judgments and recommendations.

Business development and administration: Leadership experience in product and customer development. Coordination of multiple products and collaborators across wide geographic areas. Agile software development practices along with test-driven development provide a solid foundation for software production, planning, and group accountability.
Machine Learning: Designed and developed a method of real-time support vector machine based ballistic target discrimination. Radar measurements were processed and compared against a pre-trained hyperplane for classification. High accuracy discrimination allows: better ballistic target detection odds, more precise origin and impact location determination, and increased warning time to take cover.
Mathematics: Co-developed coordinate transformations and other physics and math libraries. Also contributed to Global Matching Engine, a software framework for location and time comparisons between truth sources and observer reports. Wrote software to plan and analyze antenna alignment, aircraft profiles, and radar test objectives by displaying charts along with Google Earth imagery.

Education
Master of Science in Engineering University of Alabama in Huntsville, 2015
Bachelor of Science in Electrical Engineering University of Alabama in Huntsville, 2009
Summa Cum Laude
Projects: Vigilance monitoring system and fluorescence image processing

Personal
I am blessed with the time and ability to write, read, and cook. References are available upon request.