

SOFTWARE ENGINEER

Project Management • Embedded, Hosted & Standalone Applications • SDLC Leadership

Strategic software developer skilled in the design, creation, and evolution of mission-critical applications for the commercial, industrial, and defense sectors. Highly skilled in both high- and low-level coding, with expertise in C, C++, and Java. Experienced project manager and collaborator, well versed in successful application of Agile, Waterfall, CMMI, and SDLC methodologies. Fully bilingual English and Spanish.

LEADERSHIP SKILLS & TECHNICAL COMPETENCIES: Strategic Planning • Systems Architecture • Applications Development • Enterprise Systems • Integration • Client Relationship Management • Project Management • Resource Management • Coaching • CMMI • Agile • Waterfall • SDLC • Distributed • Front End • Back End • Middleware • C • C++ • C# • Java • Fortran • ADA • Perl • Python • Django • Docker • JavaScript • AngularJS • React • OpenGL • WebGL • three.js • UNIX • Linux • Windows • IoT • Raspberry Pi • Arduino • OpenSAF • OSGI • MySQL • Git • GitHub • GitLab • ClearCase • SVN • RCS • IBM Rational Software Architect • StarUML • ClearDDTS • ClearQuest • Jira • Neural Networks • Fuzzy Logic • Support Vector Machines • NumPy • Pandas • Matplotlib • Jupyter Notebook

PROFESSIONAL EXPERIENCE & SELECTED ACHIEVEMENTS

Botts Innovative Research, INC.: Madison, AL 2018–Present
Independent Consultant • Lead Software Engineer

Development lead for implementation of content management & client application solutions for Open Sensor Hub elements using Django framework, TastyPie, Haystack, and Elasticsearch for implementation.

- **Lead implementation of client composition tool.** Led an agile team of 4 developers creating of workflows, data models, and implementation of an integrated tool for retrieval, composition, and visualization of sensor offerings from Open Sensor Hub. Developed new capabilities for management and visualization of sensors and their respective data in a geospatial domain. The solutions employ Open Geospatial Consortium Sensor Web Enablement standards compliant Open Sensor Hub nodes to manage sensors and their data streams through Sensor Observation Services and Sensor Planning Services. Allows for development of custom clients and visualizations of distributed sensor offerings, planning, and tasking.

Wall Highway Christian Academy: Madison, AL 2018–Present
Instructor • Introduction to Programming

Late middle school and high school instructor.

- **Developed & Deliver Curriculum Introducing Students to Programming.** Developed curriculum to teach student programming with the Java Programming Language.

TELEDYNE BROWN ENGINEERING INC.: Huntsville, AL 2016–2018
Senior Systems Analyst III • Software Engineer

Development of front and back end software on mission-critical distributed modeling and simulation framework for state-of-the-art defense systems. Collaborated on development of communications protocols, programming in C++ on application layer, abstractions, and paradigms; and programmed human-machine interface (HMI) in Java using Eclipse Platform. Applied combination of Agile and Waterfall methodologies.

- **Enhanced systems usability and monitoring via development of Java-based graphical user interface (GUI).** Led creation of forms and standards streamlining development process.
- **Participated in recruitment of Software Engineers as member of hiring committee.** Interviewed talent against behavioral and technical criteria.

GEORGIA TECH RESEARCH INSTITUTE APPLIED SYSTEMS LABORATORY: Huntsville, AL 2015–2016
Research Scientist II • Software Engineering

Recruited for software development role supporting development and integration of distributed enterprise software platform for next-generation weapons systems. Managed architecture, design, and implementation of user interface as a standalone platform.

- **Streamlined usability and improved system efficiency as co-architect of solution extracting UI from back end,** enabling operation of interface on cloud-based Java DDS middleware solution with open source gateways.

EPIQ, INC.: Huntsville, AL

2014–2015

Senior Software Engineer • Resource Management

Managed development of distributed Maintenance and Diagnostics system as lead programmer and acting proxy for program Resource Manager on Integrated Air and Missile Defense Battle Command System (IBCS) for U.S. Department of Defense. Created scalable system functionality enabling multithreaded communication using Java Native Interface, OpenSAF, OSGi, and DDS technology, and leveraging reusable design patterns and code constructs to enhance internal test capability.

- **Turned around program failing to meet milestones.** Oversaw team of 6, collaborating cross-functionally as technical liaison and project leader to facilitate communication, build requirements, and accelerate development cycle.

CEPEDA SYSTEMS & SOFTWARE ANALYSIS, INC.: Huntsville, AL

2007–2014

Software Engineer

Managed diverse portfolio of software development, implementation, and maintenance projects on flight mission simulation digital platform for MIM-104 Patriot missile program. Collaborated on hardware-in-the-loop virtual-constructive systems, delivered presentations to key government and program stakeholders, and coordinated internal workflows.

CEPEDA SYSTEMS & SOFTWARE ANALYSIS, INC., continued

- **Co-led successful translation of 365K lines of legacy Fortran code to C/C++ on SPARC architecture.** Partnered with internal hardware and software teams to modernize platform, meeting PDB program modernization requirements.
- **Reduced code analysis from 5 days to 7 minutes (-99%) via creation of C++-based post-processing tools** streamlining reviews and accelerating quality assurance.
- **Decreased software build times by 73% (from 1.75 hours to 28 minutes) by enhancing build scripts.** Rewrote makefile scripts/programs and streamlined builds through end-to-end file structure reorganization.
- **Developed code in C/C++ enhancing communication between simulation and tactical systems** and optimizing load out specifications, enabling utilization of system simulations improving in-the-field system functionality and training.
- **Led preliminary and critical technology reviews with Department of Defense and foreign liaison offices.** Provided “state of the software” updates and briefings, and strategized program enhancements.
- **Enabled new business opportunities for Cepeda through successful project delivery and customer relationship management.** Directly contributed to incremental revenues via demonstrated ability to deliver against SLAs.
- **Appointed by senior leadership to train newly Software Engineers,** delivering training on internal best practices.

GENERAL DYNAMICS MISSION SYSTEMS: Huntsville, AL

2005–2007

Staff Software Engineer

Collaborated on architecture, design, and implementation of mission-critical Tactical Airspace Integration System (TAIS) utilized in air space management systems. Coded and tested applications and scripts in C#, .net, and Visual Basic. Interfaced with other vendors and sub-vendors on program execution.

- **Collaborated on project team successfully recoding TAIS from C++ on Solaris server, to C#/.net** running on Windows platform.
- **Automated TAIS system security updates via development of Visual Basic scripts executed within Windows shell.**
- **Elevated team technical capability through leadership on training for C# programming language.** Identified and evaluated vendors, negotiated contract, and organized training for 10-person team.

MOTOROLA, INC.: Plantation, FL

1999-2005

Senior Software Engineer

Promoted through successive software engineering roles developing embedded software on Motorola's full-featured iDEN wireless cellular phone handsets.

- **Championed development of multiple features in embedded C++ and Java code used** in commercial software on handsets, including Call Log user interface fully integrated with Phone Book and Dialer features.
- **Developed API for application layer in MMS (Multimedia Messaging Service)** enabling seamless composition and playback of multimedia content.

EDUCATION

NOVA SOUTHEASTERN UNIVERSITY GRADUATE SCHOOL OF COMPUTER & INFORMATION SCIENCES: Davie, FL
Master of Science (MS) Degree in Computer Science

- Concentration in Real World Computing – Machine Learning, Database Mining Knowledge & Discovery, Visualization, Distributed Computing, & Graphics.
- Researched and developed unstructured ad-hoc Peer-to-Peer networks using epidemic algorithms for knowledge distribution.

FLORIDA ATLANTIC UNIVERSITY: Boca Raton, FL
Bachelor of Science (BS) in Computer Science Degree

UNIVERSITY OF ALABAMA IN HUNTSVILLE: Huntsville, AL
Professional Certificate in Modeling & Simulation