Brian T. Jenkins

Software and DevOps Engineer

Contact

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About

I am a highly motivated software and devops engineer with 12 years of professional experience, starting in web development and moving into safety-critical aerospace applications. My current role is Principal Software Engineer at Sandel Avionics, where I am primarily responsible for development of Flight Management System (FMS) application software. In addition, I'm responsible for the design and implementation of the navigation database, CI pipelines, and build tools for all of our applications (both Linux and embedded). Test-driven development is employed, and software is developed in accordance with RTCA DO-178C. Testing, internal tools and CI use C++, Python 3, and Git. I enjoy working in a team environment, am a quick and independent learner, and am passionate about mentoring and helping others.

Profiles

GitHub
jenkinz

Twitter
jenkins_bt

Work

Sandel Avionics

October 2019 — Present

Principal Software Engineer   https://sandel.com

Responsible for FMS application development, including navigation, flight planning, configuration, and interfacing with the display UI components. The embedded Linux-based FMS apps are implemented in C++, deployed on an Intel i7-based SoM, and communicate with a distributed set of STM32 Arm Cortex-based microcontrollers (running ThreadX RTOS C/C++ applications) handling safety-critical sensor and data processing tasks.

Highlights

- Designed and implemented FMS application software handling flight planning, configuration, and display control tasks
- Designed and implemented navigation database (updatable over-the-air every 28 days)
- Leveraged MQTT for telemetry and interprocess communication
- Responsible for test-driven development processes, a flexible build and release system, and CI infrastructure

Govern For California

December 2012 — Present

IT and DevOps Consultant (part time)

https://governforcalifornia.org

GFC is a non-profit, non-partisan organization seeking to improve California state governance by becoming a counter to special-interest forces that have too much power over state legislators in the capitol today. Our strategy is to think and operate like a business and as a "special interest for the general interest." Our goal is to liberate state legislators from special interest influence to govern with a common sense, data-driven approach, and for the benefit of all California citizens.

Highlights

- Responsible for IT operations (part-time)
- Responsible for financial data gathering and tracking
- Responsible for online donation interfaces and processing

General Atomics Aeronautical

January 2013 — October 2015

Software Engineer, System Safety

https://ga-asi.com

Responsible for software safety assessments on unmanned aircraft platforms to drive system and software safety requirements.

Highlights

- Successfully lead completion of safety assessments for 4 unique contracts
- Developed an integrated model-based analysis technique for system/software safety

vFlyer

August 2009 — June 2012

Software Engineer

https://vflyer.com

Maintained and developed Java-based web applications powering vFlyer's marketing platform and website builder.

Education

Santa Clara University

September 2005 — June 2009

🎓 **Computer Engineering**
Bachelor of Science (cum laude)

Publications

An Integrated Model-Based Approach to System Safety and Aircraft System Architecture Development

October 2015

Industry standards for aircraft development require consideration of system safety objectives during all phases of system architecture development and implementation. However, tools that have enabled systems engineers and software engineers to create high-fidelity models of system architectures currently don't address the concerns of the system safety engineering discipline. A strategy is necessary to ensure that safety objectives are considered during system architecture model development while maintaining the required organizational independence between system safety and the domains with which they interface. This paper details an approach to include a view in an architectural model that addresses system safety objectives.

Skills

Linux Application Development

- c
- c++
- python 3
- tdd

DevOps

- git
- cmake
- platformio
- static analysis
- code coverage
- doxygen
- docker

Embedded Development

- stm32
- threadx rtos

Web Development

- flask
- mysql
- aws