Senior Software Engineer proficient in designing, testing and maintaining powerful software solutions. Possesses a strong and diverse set of skills across various platforms, languages and frameworks. Highly autodidactic and holds a high expectation for quality software design.

Work History

SEP - Senior Software Engineer

Westfield, IN

Steel Joist Design, Analysis and Shop Ordering

June 2022 - Current

- Design, implement and test software utilized in designing steel joists, analyzing the forces and stresses at various points along the joists and generating reports for the creation of the joists
- Develop and maintain a .NET, WPF solution consisting of two Windows services, over 125 projects and over 22,000 unit, integration and system tests
- Lead a sub-team of 6 new team members of varying experience to ensure a smooth transition onto the project and bring them up to speed on the C#, WPF and domain information required for being successful on the project
- Lead a sub-team of 6 team members across multiple companies to design, develop and test features for extending usability of the application and exposing endpoints to the system data via micro services
- Work directly with Civil Engineers to analyze and interpret several gigabytes worth of organized data output used in the validation of calculations and software changesets
- Orchestrate software performance benchmarking and implement data structure, algorithm and memory usage enhancements to help reduce the amount of time required to do the heavy computing of joist analysis and design

SEP - Software Engineer

Westfield, IN

Signal Processing Analysis and Display

June 2021 - June 2022

- Aid in the triage and resolution of a large backlog of deficiencies and change requests for a pre-existing C++ Signal Processing application
- Interact with a series of custom drivers and Linux services to implement and orchestrate the recording of signal data at varying rates, frequencies and time intervals
- Redesign the startup sequences and interactions of a system operating on 3 different Linux machines to achieve a cohesive initialization of configurations and clock synchronizations
- Council the client in the importance of Scrum ceremonies and direct them through putting into place regular organized planning, review and retrospective sessions

Brian Hanford

Senior Software Engineer

Contact

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Skills

- Architectural Design
- Object-Oriented Programming
- C# Programming
- .NET WPF (MVVM)
- Dependency Injection
- Unit, Integration, System Test
- Data Structures and Algorithms
- C/C++ Programming
- Agile & Scrum
- GIT/Version Control
- Automated Data Analysis
- Excel (VBA) Data Analysis
- Robotics Software

Raytheon Technologies - Software Engineer Indianapolis, IN

Gateway Mission Router February 2021 - June 2021

- Extend the capabilities of the router which bridges a ground vehicle's LAN with the larger BFT WAN consisting of several internal hardware units as well as ground, air and satellite vehicles
- Add support for variable video input/output formats and configurations through the network via GStreamer in C++
- Help in the setup and implementation of automated functional and data-driven unit tests using the GTest framework
- Refactor project Makefiles to dynamically find all files within the project directory that need compiled and linked as well as implement independent rules for source and test builds.

Raytheon Technologies - Software Engineer Indianapolis, IN

Mission Planning Application May 2020 - March 2021

- Develop C# WPF application that allows for automated and configurable calculations of aircraft weight and balance data to help improve the efficiency of software test processes across multiple aircraft configurations
- Architect and implement wrapping infrastructure around an external interface that handles the setup, execution, error handling and post-processing of all incoming requests in a single unified set of instructions
- Help in the upgrade and implementation of modern .NET frameworks and methodologies to decrease lines of code and increase developer efficiency
- Help in the setup and implementation of automated functional and data-driven unit tests using the MSTest framework

Windows Services

Linux OS

Azure DevOps

Makefile & CMake

HTML/CSS

Bash Scripting

Angular Typescript

Python Programming

MATLAB Programming

Databases

Java Programming

AI/ML

Raytheon Technologies - Software Engineer Indianapolis, IN

Autonomous Satellite Tracking September 2018 - July 2020

- Design, implement and test software that allowed for manual and automated control of a portable ground parabolic dish that tracks and communicates with satellites in orbit
- Help in the design and implementation of a series of Windows Services that controlled and monitored various hardware units with unique communication protocols while maintaining a control loop rate of 30 Hz
- Work with and implement various linear algebra and filtering algorithms to create an algorithm that is able to autonomously acquire, track and communicate with satellites in orbit
- Design and develop a WPF-MVVM user interface for manual control of the parabolic dish and its various hardware units as well as provide State of Health information for each individual device and the entire system
- Build up software simulations of each of the hardware devices to enable preliminary testing of the production software without the need for the presence of hardware

Education

Bachelors of Science: Computer Science West Lafayette, IN

Purdue University Fall 2013 - Spring 2018