Stephen Wayne

Experience

Josh.ai | Software Engineer III | April 2017 - Present
- Re-wrote date and timezone library in C++ to enable Josh to be cross-platform
- Designed and implemented largest device integration (enabled Crestron support)
- Currently building machine learning predictive platform based on user interaction and contextual data
- Engineering/architecture design for multiple complex, wide-spread internal technologies
- Designed and implemented embedded software and REST API for Josh Micro device setup
- Analyzed, designed, and improved hardware components for embedded Linux platform (Josh Micro)

SEELab, UCSD | Graduate Researcher | 2016-17
- Designed and implemented intelligent frequency-hopping to maintain wireless communication in noisy environments
- Created drone-based distributed network, with forest fire response as a primary use case
- Developed distributed drone system to detect anomalous chemical signatures, with fire as a primary use case
- Real-time data processing for behavior planning and data visualization

First RF | Embedded Systems/RF Intern | Summer 2016
- Designed, built, tested and analyzed novel X-Band radar
- Built internal tooling and signal processing software (Python)

Lowry Engineering | Python Developer | Fall 2014 - Summer 2015
- Developed software tools to interface with ArcGIS for data capture and export
- Automated cost analysis for building trails across variable changes

NASA Jet Propulsion Laboratory | Engineering Intern | Summer 2013-14
- Developed models and architecture for small satellite communication in deep space
- Designed experiment to characterize Martian atmosphere by Doppler-tracking balloon-borne probes
- Multipath analysis for lunar surface characterization using GRAIL spacecraft

Projects

showCal | Easily add TV showtimes to your Google Calendar
- Work in progress. Some of my goals:
- React.js front end - OAuth2, showtime data display, calendar add options
- Golang backend - implement REST API for React.js client
- Hosted on AWS (lambda?) - using this as an opportunity to build familiarity
- Work towards full CI/CD - using this as an opportunity to build familiarity

Guided Parafoil System | A novel small-payload delivery system from planetary orbiters
- Goal: Deliver small payloads to planetary surface with low cost and high accuracy
- Sponsored and mentored by NASA Ames Research Center
- Sponsored to present this project at the IPPW research conference in Cologne, Germany
- Team lead, designed electrical systems architecture, built embedded software
- Wrote C++ on Teensy 3.1 for system control and data acquisition

Contact

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Education

M.S.
Electrical/Computer Engineering
UC San Diego | 3.8 GPA
CS Research Lab

B.S.
Electrical/Computer Engineering
Univ. of Idaho | 4.0 GPA
Summa Cum Laude

Skills

Languages/Frameworks
Modern C++
C# (3.0)
Python 2/3
Matlab
Golang (learning)
React/Node.js (learning)

Other Technologies
SQLite Database
MySQL Database
AWS S3 (learning AWS)
Git/Jira

Relevant Courses

Probabalistic Learning
Machine Learning
Data Structures/Algorithms
Distributed Control
Networks
Computational Simulation
Digital Logic
Calculus I/II/III
Differential Equations
Linear Algebra
Digital Signal Processing
Embedded Security
RF Circuit Design
Low Power Circuit Design
Advanced Electromagnetics
Antenna Theory/Design