

Contact

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Languages

- C++ (Proficient)
- C
- Python
- JavaScript
- HTML
- React Native

Technologies

- Robotics
- Linux
- VxWorks
- Firmware
- RTOS
- Docker
- ARM
- PPC

Interests

- Running (2 Marathons)
- Weightlifting
- CrossFit
- Basketball
- EDM
- Skiing
- Baseball
- Football
- Cars
- Hiking
- Camping
- Golfing

KEVIN SCOTT

Software Engineer

Experience

Embedded Software Engineer 2018 – Present  
Yaskawa America, Inc

- C++ C Linux VxWorks RTOS ARM PPC Docker Robotics Firmware googletest Azure Pipelines
- Implemented motion control and I/O support for A1000 inverter drive on MP3300iec series controller (feature support released in May, 2019).
- Interact with full production firmware stack to achieve feature development and bug-fixes on daily basis.
- Utilize a strong knowledge of polymorphism and object-oriented programming to drive efficient and sustainable C++ software design.
- Implement unit test and integration test coverage for all production code changesets.
- Utilize a working knowledge of transformation matrices and kinematics to interact with motion-control firmware.
- Thoroughly document design decisions regarding code additions and refactors.

Projects

Full-Stack Mobile Chess App github.com/ChessApp

- C++ JavaScript React Native Docker Linux Python googletest Expo Client AWS AWS EC2
- Personally designed the game engine's C++ algorithms to enforce all rules.
- Configured an AWS EC2 instance to host the game engine executable, which receives input from connected mobile clients via HTTP requests and returns the updated game state in XML.
- Created a mobile-friendly GUI client in JavaScript using React Native, which is deployed using Expo Client.
- Tracked and fixed bugs by playing against friends via our respective mobile devices.
- Utilized Docker to capture the C++ build environment and deploy it to the AWS server.
- Utilized Googletest for unit test infrastructure and Python for integration test and automated debug infrastructure.

Personal Finance Transaction Sorter github.com/kscott27/TransactionSorter

- Python PyQt5
- Developed algorithms to parse bank statement csv files and group transactions into custom, user-defined categories for further analysis and monitoring.
- Added persistent storage for keywords from user-categorized transaction names so the user never needs to manually classify a transaction with the given keyword again.

Extended Kalman Filter github.com/kscott27/Udacity-ExtendedKF

- C++ Linux Robotics
- Implemented algorithms for Kalman filtering data sets of noisy lidar and radar measurements.
- Utilized object-oriented principles to increase code-reuse and create a scalable framework for filtering other types of sensor data.

3-Axis Heat Flux Calibration Robot kmscott27.wixsite.com/kevinscott

- C++ RTOS Robotics Python PyQt5
- Integrated C++ algorithms into AVR FreeRTOS to achieve autonomous 3-dimensional motion, read digital thermocouples, and convert analog gauge output voltages into digital signals.
- Designed, ordered and manually soldered custom PCB in order to condense necessary peripheral electronics.
- Designed GUI using Python to interface with device over serial via a remote computer.

Dual-Axis Automated Nerf Gun kmscott27.wixsite.com/kevinscott

- Python RTOS Robotics
- Utilized proportional closed-loop feedback from encoders and accelerometer for position control.
- Utilized transformation matrices and vector spaces to calibrate device based on error measurements.

Education

B.S., Mechanical Engineering, Concentration in Mechatronics  
California Polytechnic State University, San Luis Obispo  
Online Nanodegree: Self-Driving Cars, Part 1  
Udacity  
Cum Laude  
Sept 2013 – June 2018  
2018