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Lucas Doyle

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stonelinks.org/luke

Professional

Airware

San Francisco, CA
2014 - 2018

Senior Staff Software Engineer

Developed core technologies for an enterprise commercial drone analytics platform. Transformed raw drone imagery into survey-grade data products for the insurance and mining / quarrying industries.

Cloud front-end: Built fundamental workflows to upload, process and analyze large drone surveys. Developed mapping / GIS-focused UI: authored internal react / redux / leaflet map framework; added support for user-defined coordinate systems; implemented ground control point management (GCP); built tools to annotate, measure and compare layers. Also built many enterprise-focused features like user management, permissions and SSO / authentication.

Mobile: Helped bootstrap Airware's first mobile app for drone operators to fly, capture and upload drone data to the cloud. Leveraged team skills and code reuse with a react-native / iOS approach for the app. Implemented key features like geofence editing and status indicators for on-device photogrammetry.

Desktop: Built an app to configure Airware's autopilot hardware to fly fixed-wing and multirotor drones.

Leadership: Engaged in engineering leadership and product lifecycle. Helped define requirements, led feature development and ran meetings. Architected and completed several large scale refactors and migrations, including a Backbone to react migration as well as a product merger after acquiring a French company. Served as a manager on an as-needed basis; helped plan quarters and hired engineers.

Tech stack: Javascript (react, redux, babel, webpack, leaflet, THREE.js, react-native, node-webkit), Python, some Swift 3 / iOS, PHP (symfony), golang

MUJIN Inc.

Bunkyō-ku, Tokyo, Japan
2012 - 2014

Software Engineer

Fourth employee at a Japanese industrial / manufacturing robotics startup straight out of college. Created web interface for an industrial arm planning system used by Canon, Honda and several Japanese system integrators.

- Defined and implemented workflows to program and optimize industrial robots. Wrote all customer-facing UI, including a scenegraph-based WebGL viewer and a real-time environment state streamer for a binpicking system.
- Honed communication skills by working with a highly international team and living in Japan for two years.

Tech stack: Javascript (Backbone / Marionette, WebGL, websockets), Python (django)

Harvard-Smithsonian Center for Astrophysics

Cambridge, MA
2009 - 2012

Automations Programmer / Engineer

Worked on an experimental X-ray optic production facility on a summer internship / part time basis.

- Wrote software to fabricate optics in multiple production scenarios such as different deposition strategies, optic geometries, vacuum chamber configurations.
- Completed mechanical and electrical design of vacuum chamber hardware. Used CAD to produce drawings for machinists and coordinated work with external component vendors. Saved costs by developing efficient shutter controllers using Arduinos.

Tech stack: Python (flask), LabVIEW, Javascript, Solidworks, Arduino

Anybots Inc.

Mountain View, CA
2011

Robotics Intern

- Authored log aggregation and analysis tools for a fleet of >130 telepresence robots.
- Implemented forehead screen UI to display internal robot state and answer calls made to the robot.

Tech stack: Python, Javascript

Education

Rensselaer Polytechnic Institute

Troy, NY
2008 - 2012

B.S., Computer and Systems Engineering

Boeing Robotic Wingbox : Simulated an intra-wing robot to operate inside an aircraft and conduct inspection and assembly tasks.

DaBuzz Market Sentiment Analyzer : Designed and implemented web crawler / scraper to analyze financial news sources and gauge market sentiment. Gave presentations about DaBuzz and the Rensselaer Center for Open Source Software.

Skills

Software Development

Experience writing both modern and "old-school" Javascript for front-end, back-end and mobile (via react-native). Experience with Python and node for backend / tooling. Experience with javascript tooling for build and unit testing. Familiarity with Swift / iOS, PHP, C++.

Familiar with industry standard tools like git, JIRA, github, CI, Docker, etc. Pragmatic follower of agile best practices. Effective technical writing and documentation skills.

Embedded Control

Authored control software for autonomous and semi-autonomous boats, blimps, cars and robots. Programmed for multiple microcontrollers (Intel 8051, Arduino, ARM).

Computer Aided Design (CAD)

Experience with Solidworks. Virtually designed and simulated multiple FIRST robots, a Battlebot and vacuum chambers at Harvard-Smithsonian Center for Astrophysics.