

Summary

Software engineer with significant experience in leadership, front-end development, back-end development, systems architecture, and embedded systems. Passionate about building solutions that excite customers and maximize business impact using data-driven metrics when possible. Keen on developing best-in-class software with thoughtful component architecture, well-tested code, and strong CI/CD pipelines. My affinity for seeing the big picture, staying organized, and maintaining a reliable schedule sets me apart from the pack.

Work Experience

Stellar Pizza – Head of Software November 2019 - April 2024

- Chief software architect responsible the vision and framework for vehicle, fleet management, and order management software stacks
- Developed the initial code for the majority of our projects and hired as needed as responsibilities grew
- Ultimately hired and managed two software teams to support vehicle software and application software
- Emphasis on business impact via executive strategy meetings, feedback from customers and stakeholders, and measurable OKRs
- Cultivated best practices including sprint format, code styles, testing patterns, CI/CD, API-first, infrastructure-as-code, etc
- Technologies: Typescript, React, React Native, Python, Django, Django REST Framework, Docker, Kubernetes, PostgreSQL, InfluxDB, Grafana, Twilio, Auth0, Stripe, OpenCV, Mbed, C/C++, infrastructure-as-code on AWS and Azure clouds

inVia Robotics – Lead Software Engineer November 2017 - March 2019

- Led a team to rebuild Robot Management System (RMS) from scratch with increased throughput for 100+ robots per deployment
- Created inVia's Automated Storage and Retrieval System (AS/RS) application which integrates between customer WMS's and our RMS
- AS/RS application includes REST API, business logic, unit tests, automated documentation, and automated deployments
- Created a Monte Carlo framework to simulate a large state space to gain confidence in new features before customer rollout
- Technologies: Python, Django, Django REST Framework, PostgreSQL, Ansible, Systemd, Grafana, AWS, EC2, S3, Gitlab CI

SpaceX – Software Engineer January 2014 - November 2017

- Led a team to create Architect, a design tool for complex avionics systems; now used by hundreds of engineers for all SpaceX vehicles
- Data-driven system design used as a foundation for automating system analysis, integrated test procedures, and electrical harness design
- Backend developed as an API-first application with client libraries in Javascript and Python for other employees to build automations
- Managed team sprints (using JIRA Agile) and quarterly priorities to deliver features with the most impact to the company
- Technologies: JavaScript, Angular, Autobahn, Lodash, D3, Raphael, Karma, Jasmine, Protractor, LESS, Bootstrap, Brunch, Vagrant, S3, MongoDB, Python, Python Eve, Bitbucket, Bamboo, AWS GovCloud

SpaceX – Avionics Systems Integration Engineer April 2011 - January 2014

- Designed avionics systems architecture for Dragon 2 pad abort capsule and related propulsion test article
- Designed and built GSE and HITL components for Cargo Dragon; supported ops on-site in McGregor, Houston and Cape Canaveral
- Created Borg Reports as an early tool to perform repeat analysis over multiple missions using Python, Django, Angular, Bootstrap, etc

Blue Robotics – Engineer January 2014 - February 2016

- Designed an autonomous surfboard with solar panels, thrusters, and a satellite comm link; numerous successful ocean trials ([blog](#), [github](#))
- Developed end-to-end, real-time satellite communication using Rock Seven API, Heroku, and MongoLab ([github](#), [github](#))
- Developed a real-time mission monitoring front-end including Google Maps integration, live telemetry plots, and vehicle control ([github](#))

Projects

Blue Robotics – Board Member January 2014 - present

Mecanumbot July 2012 - January 2016

- Designed and built a power monitoring and distribution PCB with Arduino bootloader using Eagle ([blog](#), [github](#))
- Software projects included Hector SLAM ([github](#)) and a following algorithm using point clouds through C++ and ROS ([blog](#), [github](#))

USC AeroDesign Team – Performance Captain January 2009 - July 2010

- Created a multidisciplinary design optimizer in MATLAB to determine ideal plane specifications based on mission requirements

Popular Github Repos: [wireless](#), [goprohero](#), [elp-stereo-camera-ros-pkg](#)

Education

M.S. Computer Science (Intelligent Robotics) Fall 2012

University of Southern California (USC)

B.S. Aerospace Engineering, minor in Computer Science Spring 2011

University of Southern California (USC)