David Boles

478 Monterey Road
Pacifica, CA 94044

(415) 825-2464
me@davidbol.es
www.davidbol.es/portfolio

University junior passionate about robotics and embedded systems, seeking to help engineer a more sustainable future.

Education

Brown University—*3.9 GPA*
September 2018–Present

- Machine Learning—*planned for Spring 2021*
- Control Systems Engineering—*planned for Spring 2021*
- Digital Signal Processing
- Linear System Analysis
- Sensors and Actuators for Real Systems
- Introduction to Robotics—*PID, Kalman Filters, and SLAM*
- Topics in Collaborative Robotics
- Design and Implementation of Programming Languages
- Logic for Systems
- Software Engineering

Experience

Brown Space Engineering—*Software Lead*
September 2018–Present

- Trains new members and facilitates software development for our next satellite.
- Experiments with development guardrails for FreeRTOS-based firmware.
- Migrated our projects from Atmel Studio to an open source toolchain based on OpenOCD and Arm GCC.

Duckietown Foundation—*Research Assistant*
June 2020–September 2020

- Adapted a college robotics course for use in high schools including validating custom mass-manufactured quadcopter kits as well as overseeing content writing and teacher training. The finished course was used by several schools and over 150 students in Fall 2020.
- Completed preliminary user studies, requirements drafting, and component validation for the next iteration of kits.

Styra—*Software Development Intern*
June 2019–August 2019

- Created a configurable, markdown-compatible system for embedding interdependent blocks of live, interactive code into public-facing documentation.

Oracle Education Foundation—*Intern*
March 2016–June 2018

- Developed a new Internet-of-Things course in collaboration with Program Managers.
- Simultaneously supported 6-8 groups of students in designing human-centered solutions using embedded systems.

B.R.E.A.D. FRC Robotics Team—*Robot Division Lead*
September 2015–June 2018

- Managed and coordinated software, electrical, and mechanical groups, composed of over 40 students and several mentors, to build competition-ready, 80+ pound robots.
- Developed a modular, semi-declarative, lazily-evaluated robot control architecture for Java.

Skills

Software Engineering

- C
- Python, NumPy, OpenCV
- MATLAB
- Java
- Go
- Javascript, React
- Racket, Plait
- Forge, Alloy
- Promela (SPIN)
- Git
- Linux Administration
- Network Configuration

Mechanical Engineering

- Solidworks
- Fusion 360

Rapid Prototyping

- Soldering (incl. surface mount)
- 3D Printing
- Laser Cutting
- CNC Milling and Routing

User-Centered Design

Awards

Rookie All-Star Award

Awarded to B.R.E.A.D. at the Silicon Valley FIRST Robotics Competition Regional, 2016

Languages

French—*9 Years*

Spanish—*4 Years*

Other Interests

Food Fermentation

Hydroponic Gardening

Knitting

Ceramics