Galen Savidge

Robotics & Control Engineer

Berkeley, CA 94708
(510) 246-9256
galensavidge@gmail.com
galensavidge.com

Education

2014–2019 **Bachelor of Science, Robotics Engineering**, *University of California, Santa Cruz*.

GPA: 3.80

Courses: Introduction to Mechatronics, Feedback Control Systems, Sensing and Sensor Technologies, Models of Robotic Manipulation, Microprocessor System Design, Algorithms and Abstract Data Types, Introduction to VLSI

Awards

Highest Honors in the Major, *Jack Baskin School of Engineering*.

Dean's Honors List, *F '14; W '15; W '16; W '17; S '17; F '17; S '18*.

Tau Beta Pi, *Engineering Honor Society*.

Experience

Oct 2018–June 2019 **Attitude Control System Team Lead**, *SlugSat*, Microsatellite Design Project.
Led a team of 4 electrical and robotics engineers designing an attitude control system for a CubeSat. Designed and built space-grade sensors and actuators, wrote embedded C programs for sensor fusion and feedback control, and ran hardware-in-the-loop simulations. Presented team work summaries, ran meetings, and managed team deadlines.

Apr 2018–June 2018 **Lab Tutor**, *Microprocessor System Design*, Embedded Systems Programming Course.
Helped students program microcontrollers to read sensors, communicate over serial connections, and use embedded hardware. Assisted students with debugging embedded C programs. Wrote test code used by instructors.

June 2016–Sept 2016 **Robotics Intern**, *Biomimetic Millisystems Lab*, UC Berkeley.
Developed and tested feedback control systems for use with bio-inspired locomotion techniques. Established the code base used for closed-loop control of wheeled and multi-legged autonomous platforms. Presented improved mobility and efficiency of existing designs.

Projects

Dec 2018 **Autonomous Mobile Robot**.
Designed, built, and tested an autonomous robot in a team of 3. Laser cut and assembled parts modeled in SolidWorks. Designed multistage filtering circuits on protoboard and perfboard. Wrote hierarchical state machines. Demonstrated that the robot could consistently complete a randomized test course.

May 2018 **Optimization of Theo Jansen's "Strandbeest"**.
Simulated a multi-linked leg using MATLAB and optimized its design for maximum stability and efficient locomotion.

March 2018 **Three-Sensor Attitude Estimation**.
Implemented closed-loop attitude estimation using raw data from a three-sensor IMU package. Calibrated for sensor drift and misalignment using MATLAB.

Skills

Languages & Software: C, Java, MATLAB, SolidWorks, Git, digital filtering, embedded programming (PSoC 5, PIC32, STM32 Nucleo, Raspberry Pi, and mbed), LaTeX

Electronics: Soldering & desoldering, DC motors & actuators, active/resistive/capacitive sensors, hardware filters

Rapid Prototyping: Laser cutters, 3D printers

Communication & Leadership: Presenting, leading meetings, Gantt charts