Galen Savidge

Robotics Engineering Student

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

Education

2014–present	**Bachelor of Science, Robotics Engineering**, *University of California, Santa Cruz*, Santa Cruz, CA.
GPA:	3.80
June 2019	Expected Graduation
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

Experience

Oct 2018–present	**Mechanical Team Lead**, SlugSat, Microsatellite Senior Design Project. Lead a team of 4 electrical and robotics engineers working to design an attitude control system for a CubeSat. Design and build space-grade sensors and actuators. Write embedded C programs for 3-sensor attitude estimation and feedback control. Present work summaries, run meetings, and manage team tasks and deadlines.
Apr 2018–June 2018	**Lab Tutor**, Microprocessor System Design, Embedded Systems Programming Course. Helped students program microcontrollers to integrate sensors, communicate over serial connections, and use DMA. Debugged students' embedded C programs. Wrote test programs for use by the instructors.
June 2016–Sept 2016	**Robotics Intern**, Biomimetic Millisystems Lab, UC Berkeley. Developed and tested feedback control systems for use in bio-inspired locomotion techniques. Established the code base used for closed-loop control of multi-legged autonomous platforms. Implemented closed-loop feedback in C for wheeled and multi-legged designs. Designed and 3D printed parts using SolidWorks. 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 in C.
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 in C on a PSoC 5 using raw data from a three-sensor IMU package. Calibrated for sensor drift and misalignment using Matlab.

Awards

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

Tau Beta Pi, *Engineering Honor Society*.

Skills

Languages & Software	C, Java, Python, Matlab, SolidWorks, Git, digital filtering, embedded programming (experience with Arduino, PSoC 5, PIC32, STM32 Nucleo, Raspberry Pi, and mbed), LaTeX
Electronics	Soldering & desoldering, DC motors & actuators, active/resistive/capacitive sensors, hardware filters
Rapid Prototyping	Perfboard layout & soldering, laser cutting, 3D printing
Communication & Leadership	Presenting, leading meetings, Gantt charts, grant writing