

# Alexander Diego Sandoval

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## Education

**University of Colorado at Boulder**

**Graduating 2019**

**B.S. Electrical and Computer Engineering | Computer Science Minor**

**GPA: 3.383**

- Society of Hispanic Professional Engineers / Society of American Military Engineers
- BOLD Student Community Year Scholarship
- Dean's List 2016-2018

## Relevant Experience

**Center for Astrophysics and Space Astronomy Research | Colorado at Boulder**

**Dec 2017 - Present**

*Undergraduate Telerobotics Lab*

*Boulder, CO*

- Managing tests and experiments to remove constraints towards surface exploration through human-robotic teleoperations
- Designing a teleoperated rover and 6-axis robotic arm to be controlled through the robotic operating system to engage in assembling a radio telescope array

**Xcel Energy Engineering Internship | Xcel Energy**

**May 2017 - June 2018**

*System Performance Engineering Intern*

*Denver, CO*

- Built a user interface dashboard display to better increase the team's accessibility to outage data
- Performed validation tests to correct organizational structure and speed of the code for the dashboard
- Presented continuous work for the team in front of managers and coworkers to gain feedback on design

**DARPA Spectrum Collaboration Challenge Research | Colorado at Boulder**

**Aug 2017 - Dec 2017**

*SpeCOLab Team*

*Boulder, CO*

- Constructed a software radio network with a team of professors and students to win the challenge
- Coded Python and C++ programs through Linux machine for radio channel emulation testing
- Developed different software containers for scenario testing of reduced bandwidth and high throughput

**Colorado Space Grant Consortium | Colorado at Boulder**

**Jan 2017 - May 2017**

*Lab Team*

*Boulder, CO*

- Collaborated with a student team to better enhance the resources available to different project groups
- Developed a 360-degree rotating beacon transmitter for successful launch of a Mars Robotic Challenge

## Project Experience

**University of Colorado at Boulder**

**Aug 2015 - Present**

*Class Projects*

*Boulder, CO*

- Implemented C, C++, and assembly software for the LPC1115, an ARM Cortex M0 microcontroller board
- Designed a RISC-V processor pipeline through an unfamiliar development software tool
- Created a driving transceiver robot that continuously collects and displays data using the Arduino Uno
- Built a digital logic time keeping clock by manipulating logic gates with help of vigorous soldering

## Skills

**Programming Languages:** C/C++, Python, C Sharp, Arduino, MATLAB, VHDL, Assembly

**Applications:** Microsoft Office, Visual Studio, ROS, Linux, Windows, Mac OS X, GNU Radio, Altium

**Hardware:** FPGAs, Microcontrollers, PCB Design, Soldering

**Courses:** Programming Digital Systems, Digital Design Lab, Computer Organization, Operating Systems, Human Spaceflight