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

Network for Exploration and Space Science 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 LPC115, 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 proximity readings
- Built a digital logic time keeping clock by manipulating logic gates with vigorous soldering

Skills

Programming Languages: C/C++, Python, ROS, C#, MATLAB, VHDL, Assembly

Software Tools: Microsoft Office, Visual Studio, Git, Linux, Windows, PADS Mentor Graphics, GNU Radio

Hardware: SMT Component Assembly/Repair, Microcontrollers, PCB Design, Hand-Soldering

Courses: Aerospace Senior Design, Programming Digital Systems, Digital Design Lab, Computer Organization, Operating Systems, Digital Signal Processing, Human Spaceflight