

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: 3.396

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

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

- Building a Window's user interface dashboard display to better increase the performance team's accessibility to outage data
- Presenting continuous work for the team in front of managers and coworkers to gain feedback on design

DARPA Spectrum Collaboration Challenge | 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

- 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
- Implemented C, C++, and assembly software for the LPC1115, an ARM Cortex M0 microcontroller board
- Designed a RISC-V processor pipeline through a new unfamiliar development software tool

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