

# Sidney M. Velado

Work Authorization: U.S. Citizen

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## EDUCATION

**Carnegie Mellon University**, Pittsburgh PA

Bachelor of Science in Mechanical Engineering with an Additional Minor in Robotics

Expected Graduation: May 2020

## EXPERIENCE

**Staples** – Framingham MA: May - Aug 2019

**Robotics Engineer Intern**

- Modeled and designed an autonomous robot as well as additional components for robotic testing platforms
- Created and combined different electromechanical systems to develop a motor controller
- Researched multiple robotics topics and wrote reports for company documentation
- Programmed ROS packages in C++ and Python for electromechanical systems and robots

**Robotics Institute Biorobotics Laboratory** – Carnegie Mellon University, Pittsburgh PA: 2018 - Present

**Student Researcher**

- Designed different mechanical components in Solidworks for a wide array of projects
- Machined, 3D printed, and laser cut designed components and integrated them into robotic systems
- Programmed in a C++/C and Python

**Computation Engineering and Robotics** – Carnegie Mellon University, Pittsburgh PA: May - Aug 2019

**Student Researcher Lead**

- Developed an autonomous robotic system for inspection and cleaning tasks for large ship
- Led a team of undergraduate researchers in the development of the ship cleaning robot
- Wrote and maintained code for rosserial Arduino nodes to use them to control our robot

## PROJECTS

**Non – Repeating Path Planner**, Planning Techniques for Robotics Final Project

- Implemented a multigoal weighted A\* path planner that avoids previously traversed paths
- Created a visualization in RViz for the path planner
- Created ROS package for planner to use with robots

**V-REP Simulation**, Humanoids Final Project

- Learned how to use VREP simulation software
- Used ROS in the simulator to make our robot be able to be controlled by a gamepad
- Programmed arm kinematics to be able to move our arm in free space

## LEADERSHIP AND EXTRACURRICULARS

**Internal Outreach Chair**, Spanish and Latin Student Association – Fall 2018

- Recruited incoming students to the organization and improved membership by 30%
- Organized forums for students to be able discuss the LaTeX experience at Carnegie Mellon

**Social Chair**, Phi Delta Theta Fraternity – Fall 2016

- Led a 12-member committee to organize and plan all social functions
- Managed a \$14,000 budget
- Planned a formal dinner for 150 people at popular Pittsburgh venues

**Vice President**, CMU Club Lacrosse – Fall 2016

**General Body Member**, Society of Hispanic Professional Engineers – Fall 2015

## SKILLS

**Programming:** ROS, C++, MATLAB, Python, C, Linux Environment, Arduino Dev, Simulation, Git

**Engineering:** Rapid prototyping, Machine Shop, SolidWorks, 3D Printing, FEA Simulation, Microcontrollers

**Spoken Languages:** Fluent in Spanish; Conversant in French