CHRISTINA SEGAR

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EDUCATION

FRANKLIN W. OLIN COLLEGE OF ENGINEERING (MAY 2020) **Needham, MA**
Mechanical Engineering, GPA 3.79
Relevant Courses: Mechanical Prototyping, Fundamentals of Robotics, User-Oriented Collaborative Design, Mechanical Design, Affordable Design and Entrepreneurship, Powered Mobility Assistive Technology (current research)

EXPERIENCE

Carnegie Robotics, LLC **Pittsburgh, PA**
Mechanical Design Intern, Autonomous Mine Detection System (five-axis, mobile robot) *June 2018 – August 2018*
- Modified part designs to fix mechanical issues, reduce manufacturing cost, and improve system performance
- Designed complex CAD parts in use on current model including a cable-routing bracket to prevent motion failure
- Performed environmental testing and analysis on electromechanical brake system

Olin Robotics Lab Research **Needham, MA**
Co-coordinator, Mechanical Lead *August 2016 – June 2018*
- Helped organize project thrusts, familiarize newcomers with lab, and bridge student-professor communications
- Designed and prototyped endcaps and motor mounts for air-tight, remote-controlled submarine systems
- Created intricate CAD model of sub with accurate material properties for buoyancy analysis
- Fabricated pneumatic-powered flexible articulators, testing effectiveness of various fabrication methods

Olin Course Assistant Positions **Needham, MA**
Design Nature (Fall) and Introduction to Mechanical Prototyping (Spring) *August 2017 – present*
- Worked as TA for first-year class on bio-inspired design, focused on SolidWorks support and design theory
- Provided constructive feedback to help students improve design of bio-inspired Play Project for 4th graders
- Supported students in learning SolidWorks tools and translating conceptual design into kinetic mechanical sculpture

Rapid Prototyping *August 2017 – present*
- Assisted SCOPE (Senior Capstone Project in Engineering) teams with 3D printer fabrication and post-print processes
- Performed necessary maintenance and troubleshooting on 3D printers and lye bath

Olin Robotics Lab Intelligent Vehicles Summer Research **Needham, MA**
Underwater Vehicles *June 2017 – August 2017*
- Created detailed CAD for standardized sub system including ballast system, electronics layout, and actuation
- Designed and tested modular 3D printed mounting systems and 3D printed component sealing techniques
- Documented submarine build processes: https://tinyurl.com/NeptuneSub and https://tinyurl.com/PlutoSub

FIRST Robotics Team 971 Spartan Robotics **Mountain View, CA**
Design Captain, Project Manager, Technical Presenter *September 2012 – May 2016*
- Led CAD design, created subsystem CAD specializing in gearboxes, intake mechanisms, and manipulators
- Worked with carbon fiber to create custom parts, mold fabrication, layups, and post-cured modifications
- Designed prototypes, ran experiments, and analyzed data to answer design system questions
- Fabricated sheet metal parts, assembled subsystems, repaired broken or worn components

SKILLS

- Mechanical Design – 6+ years working with SolidWorks in modeling, assembling, drawing, and version control
- Machining and Prototyping – 3D printer, laser cutter, sheet metal tools, mill, woodworking, carbon fiber composites
- Graphics and Communications – Adobe Illustrator, Adobe Photoshop, MS Word/Excel
- Languages – Conversant in Spanish
- Programming – Arduino, Java, and MATLAB