

Christina Segar

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EDUCATION

FRANKLIN W. OLIN COLLEGE OF ENGINEERING (MAY 2020)
Mechanical Engineering, GPA 3.81

Needham, MA

EXPERIENCE

Olin Robotics Lab Research

Needham, MA

Co-coordinator, Mechanical Lead

August 2016 – present

- 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 and center of mass analysis
- Fabricated pneumatic-powered flexible articulators, testing effectiveness of various fabrication methods

Olin Course Assistant Positions

Needham, MA

Design Nature, Introduction to Mechanical Prototyping

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
- Troubleshoot and performed necessary maintenance on 3D printers and lye bath

Olin Electric Motorsports – Formula SAE

Needham, MA

Composites sub-team

August 2016 – December 2017

- Modeled and fabricated carbon fiber body panels for aerodynamic efficiency and aesthetic exterior design
- 3D printed rigid mounting brackets for simplified removal of body panels

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 motor mounting
- 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

Mountain View, CA

Design Captain, Project Manager, Technical Presenter

September 2012 – May 2016

- Created subsystem CAD, specialized 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
- Led brainstorming and CAD teams
- Fabricated sheet metal parts, assembled subsystems, repaired broken or worn components
- Explained design process to judges, manufacturing sponsors, and general public

SKILLS

- Mechanical Design – 5+ years working with SolidWorks, basic knowledge of Onshape and Fusion 360
- Machining and Prototyping – sheet metal tools, mill, composites, 3D printer, laser cutter, vinyl cutter
- Graphics and Communications – Adobe Illustrator, Adobe Photoshop, Inkscape, InDesign, MS Word/Excel
- Vehicles – ATV, quadcopter, tractor
- Languages – Conversant in Spanish
- Software – Arduino, Java, and MATLAB

Project Portfolio: <http://www.christinasegar.com/>