

# Paul Titchener

## Undergraduate Mechanical Engineering Student

### Education

- 2012–2016 **Bachelor of Engineering**, *Olin College*, Needham, MA, *GPA – 3.85*.  
Candidate for Bachelor of Science in Engineering; Mechanical Engineering Major Recipient of 4-year, 50% Olin Merit Scholarship  
*Coursework Includes: Software Design, Mechanics of Solids and Structures, Real World Measurements, Dynamics, Linearity 1&2, Principles of Engineering and Materials Science* **\*\*Currently Enrolled**
- 2008–2012 **Concord-Carlisle Regional High School**, Concord, MA, *GPA – 4.0*.  
High Honors, National Merit Scholar

### Experience

#### Vocational

- 2014 **Engineering Intern**, BARRETT TECHNOLOGY, Newton, MA.  
  - Worked to make the BarrettHand more water resistant through identifying sealing locations and part modifications. Proved the project infeasible because of complexity and space constraints.
  - Designed wire harnesses and stands for robotic arms.
  - Created and toleranced engineering drawings and worked with machine shops to have parts manufactured.
- 2013 **Engineering Intern**, SYMBOTIC, LLC, Wilmington, MA.  
  - Developed a custom vacuum system to clean an automated warehouse.
    - Performed calculations to specify the system, including motor sizing, pressure calculations, cyclonic separator calculations, lithium ion battery sizing and life determination and machine element life calculations.
    - Designed the system in Solidworks and integrated it with a mobile platform.
  - Engineered custom test fixtures for sensors, designed custom injected molded parts created and toleranced engineering drawings and worked with machine shops to have parts manufactured.
- 2012 **Engineering Intern**, SYMBOTIC, LLC, Wilmington MA.  
  - Designed and fabricated test fixtures for custom sensors.
  - Set up Solidworks models for computational fluid dynamics and heat transfer simulations.
- 2012 **Instrument Maintenance and Repair**, SPENCER BROOKS STRINGS, Maynard, MA.

#### Course Projects, Olin College

- 2013 **Robotic Sensing Flowerpot**, Built a robotic flowerpot that drove to the brightest place in a room..
- 2013 **Color Matching Cube**, Designed a circuit to match the color of it's surroundings.
- 2012 **Biomimetic Crab**, Worked in a group to design a mechanical crab with 8 planar Klann linkages.

### Leadership and Activities

- 2014-present **RobotX Competition**.  
Designing the mechanical components of an autonomous boat for the RobotX challenge. I am working to design the thrusters and the sonar mounts.
- 2010 - 2012 **FIRST Robotics Team 3205 Team Captain**, *CAD Lead, Design Lead, Mechanical Subteam*.  
  - 2012 WPI Regional Champions
- 2012 **Olin College Sailbot**.  
  - Designed mechanical components such as motor mounts and hull components for an autonomous sailboat.

### Skills

Software Solidworks Certified Associate, MATLAB, L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, LTSpice, HSMworks, Mach3  
Machines CNC Mill, CNC Router, Lathe, Drill Press, Band Saw, Table Saw, Miter Saw, Belt Sander  
Language Conversant in Spanish