Devin Caplow-Munro

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Proactive young engineer with great practical skills in electro-mechanical design and programming, a passion for hands on learning and a love of teamwork seeks position as an intern in your company.

Education

University of Pennsylvania SEAS:

Robotics MSE**,** *2018*

Mechanical Engineering BSE, *2017*

Qualifications

Technical Skills:

C / Java	SolidWorks / SW FEA	Mechatronics	Advanced CAD/CAM
Matlab	SolidCAM	Computer Systems	Intro to Mechanical Design
Python	CNC Machining	Intro to Programming	Solid Mechanics
Terminal / ZShell	Laser Cutting	Discrete Mathematics	Fluid Mechanics
Git	3D Printing	Linear Algebra	Dynamics
Vim	Arduino / AVR		Differential Equations

Coursework:

Technical Experience

Synrad, Inc: Mechanical Engineering Intern *Summer 2015*

- Built a tool for testing alignment of laser caps after welding. Sourced high accuracy linear bearings and dial indicators independently. Finished tool is now in use in the commercial production process.
- Designed a water cooling plate for prototype pulsed CO2 laser and analyzed with Thermal FEA.

Children's Hospital of Philadelphia: NSF REU Intern *Summer 2014*

- First author of a paper featured in *SAE 2015 World Congress*, and *SAE Journal of Passenger Cars-Mechanical Systems*.
- Developed a new head and eye tracking tool, using APRIL tags and MIT's Pupil eye tracker in C and Python. The software was able to transform traditional eye tracking data into a wall mounted coordinate system from any angle and correct for head movements on the fly.

ElectroImpact, Inc: Mechanical Engineering Intern *Summer 2013*

- Designed test spar for CNC carbon fiber weaving machines. Spar still in use for development and exhibition.
- Used a Leica Laser tracker and metrology software to develop a method for alignment of greater than 40ft parts on a large bed CNC mill.

Roles on Campus

Intro to Mechanical Design TA

- Teach SolidWorks, laser cutting, and 3D printing in a fast paced project course.
- Plan and run a weekly lab section, and oversee all grading for the class.

Access-Engineering Teacher

- Teach underprivileged high school students about engineering with projects in different disciplines every week.

Machine Shop Technician

- Answer machining questions and watch out for safety of students who use the shop.

Projects

1:10 Custom RC Drag Racer:

- Designed and machined all components in house as part of an 8-person team, using SolidWorks and SolidCAM controlled 3-axis milling of multiple materials.
- Finished car had independent front and rear suspension, Ackerman steering, and a theoretical top speed of over 60mph.

Ongoing Robotics Project Series:

- As part of graduate-level Mechatronics class, I am building a new robot each week.
- Previous robots have included an analog electronic IR tracker, an RC maze running robot, and a wireless MIDI speaker.
- The class culminates in a competitive autonomous robot hockey project which has become famous at UPenn.