

# Sean M Cooney

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## Professional Experience

Associate Mechanical Engineer

*Optikos Corporation*, Wakefield, MA

Nov 2017-Present

- Developed opto-mechanical systems with high precision motion stages for applications including: metrology, fluorescence imaging, DNA replication, aerospace imaging
- Supported current products through design upgrades and new accessories to expand capability
- Interact with customers to establish product needs and design specifications throughout project development cycle. Lead internal and external design reviews for customer approval
- Interfaced with optical, electrical, and software departments to develop solutions and tolerance ranges to balance manufacturability and image quality
- Executed transition of design to procurement and manufacturing department
- Qualified system performance using internally developed metrology equipment, autocollimators, and tool makers microscope
- Determine schedule, preliminary solutions, and hours requirements for quotation efforts

*Baja SAE Northeastern*

Fall 2012-July 2017

Captain, Project Manager, and Suspension Design Lead

2015-2017

- Grew team from 5 to 25+ members and led them through the design process and competition of 3 Baja SAE vehicles to 2 top 20 and 2 top 10 performances (7<sup>th</sup> and 5<sup>th</sup> in 2017, 2<sup>nd</sup> overall dynamics)
- Implemented team management structure, communication and PDM tools to improve collaboration.
- Maintained corporate relationships to ensure continuation of financial, product, and service sponsorship with a \$25,000 annual budget
- Trained new members on machining procedures, shared best practices for design and manufacturability, prepared them for future design and leadership positions
- Managed system integration and full car SolidWorks assembly
- Developed suspension kinematic motion models in SolidWorks to iterate front and rear suspension systems and improve vehicle performance
- Designed suspension components using FEA models based on both measured loads and observed failures to reduce weight while maintaining durability.
- Managed the implementation of the first steering system using a rack and pinion and steering wheel
- Manufactured 4130 plate and tube weldment and machined components in house

## Additional Relevant Experience

Mechanical Engineering Co-op:

*Digital Lumens*, Boston, MA

Jan-July 2016

*Analogic Corporation*, Peabody, MA

Jan-July 2015

*Advanced Radiation Therapy/Accubooost*, Tyngsboro, MA

Jan-July 2014

## Education

*Northeastern University*, Boston MA

Master of Science in Mechanical Engineering | GPA: 3.6

August 2017

Concentration in Mechanics and Design

Bachelor of Science in Mechanical Engineering | GPA: 3.7

May 2017

## Technical Skills

Applications and Programming: SolidWorks (including simulation, workgroup PDM, and PDM professional), MatLab, Microsoft Office Suite, Syspro ERP, Agile PLM, GD&T drafting

Fabrication Experience: Mill (manual and CNC), Lathe, Manual mandrel bender, Soldering (through hole and surface mount), Thermoforming, TIG welding, Composite wet layup, Basic sheet metal, hand tools

*Additional information available at [www.SMCooney.com](http://www.SMCooney.com)  
References can be furnished upon request*