Todd Roberts

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Available for full time Co-op Jan 2 – Jun 30, 2018

Education

Northeastern University, *Boston, MA* - Candidate for B.S. in Mechanical Engineering **May 2019**

- **GPA:** 3.88/4.00
- **Highlighted Courses:** Dynamics and Vibrations, Heat Transfer, FEA, Thermodynamics, Fluid Mechanics, Mechanical Engineering Design, Probability and Statistics, Introduction to Material Science, Mechanics of Materials, Engineering Problem Solving and Computation
- **Activities:** Enabling Engineering, Robotics Club, Engineers Without Borders: Uganda (2014-2015), American Society of Mechanical Engineers (ASME), NU Television (NUTV), Intramurals

Engineering Experience

Enabling Engineering, *Boston, MA* – Project Leader (club and work study) **January 2016 - Present**

- Create multiple iterations of a head-operated Xbox controller for a student with cerebral palsy
- Design and construct custom mechanical components for physical therapy equipment and research studies with the Northeastern Re-Game VR Laboratory
- Organize group meetings and communicate with other student groups
- Film and edit interviews of all enabling group project teams for fundraising and promotions

Tesla Inc*, Fremont, CA* – Dimensional Engineering Co-op **January - July 2017**

Supported the Model 3 launch by co-leading dimensional studies on the "Quality Assurance Fixture" which drove quality improvements in early production parts and assembly processes

- Devised and conducted studies based on requests from design and manufacturing engineers to root cause part and assembly level dimensional issues
- Created and analyzed dimensional reports and led subsequent reviews with management
- Developed datum strategies for test and assembly fixtures based on experimental results
- Designed and fabricated test equipment using CATIA, 3D printing, and local machine shops
- Orchestrated a daily testing schedule and communicated it to multiple engineering teams
- Managed daily responsibilities of 3 – 5 metrology technicians and measurement resources
- Provided real time solutions to assembly line issues based on current dimensional data
- Collected data using traditional and portable Coordinate Measuring Machines (CMM's)
- Evaluated Geometric Dimensioning and Tolerancing accuracy of third party supplier parts

DOTS Corp*, Natick, MA* – Mechanical Engineering Co-op **January - July 2016**

- Worked in high paced, research and development phase, consumer product start-up
- Designed and constructed multiple iterations of assembly and test fixtures using SolidWorks, shop tools, 3D Printers and Thor Labs prototyping hardware
- Collaborated with machinists, plating shops, and other vendors to fabricate custom parts
- Designed and conducted experiments and performed statistical data analysis
- Captured high resolution images for detailed optical analysis and observations
- Prepared and presented concise weekly data briefings for company leadership and staff

NAVAIR*, Webster Field, MD* – Engineering Student Trainee **June - August 2015**

- Wrote and submitted shock and vibration test procedures to MIL-STDS - 901D and 167-1A
- Field tested and documented standard operating procedure of *Blue Sky* Antenna Mast
- Assembled products and shipped them to test facilities and troops overseas

Computer & Machining Skills

- Applications: SolidWorks: *CSWA Certified*, CATIA V5, LabVIEW, MATLAB, C++, Adobe CC
- Machining: Extensive wood working and aluminum experience: Built cabinets, chairs, custom skateboards, and dock restoration. Significant experience with tabletop mill, rotary tools, and soldering equipment. Basic knowledge of welding

Background and Interests

- One of my greatest passions and interests is empowering disabled individuals by bringing new levels of independence to their lives
- Designed and built personal film equipment including a stabilizer, dolly, and camera crane
- Videography, Screen Printing, Skateboarding, Snowboarding, Sailing, and Soccer

Portfolio Link: toddroberts.info