JACOB MERSON

2187 12th St., Troy, NY 12180   *www.jacobmerson.com*   *(207) 650-8037; mersoj@rpi.edu*

Education

- **Rensselaer Polytechnic Institute**—Troy, NY *May, 2015*
  Bachelor of Science in Mechanical Engineering GPA: 3.60 (overall)

Professional Experience

- **Undergraduate Research**—Troy, NY *Research Assistant RPI Nano-M3 Lab: 2011–present*
  - Analyze micro machining of bone with finite element analysis, and milling experiments for orthopedic surgical applications. (Advisor: Johnson Samuel)
  - Developed bone microstructure staining proceedure.
  - Conducted micromachining experiments on bone (funded by NSF CAREER award).
  - Created concept designs for state of the art 3D printer for surgeon training (funded by Department of Defense).

- **Undergraduate Research**—Troy, NY *Research Assistant RPI Computer Science Robotics Lab: 2011*
  - Developed mechanical test beds for RPI computer science robotics lab. (Advisor: Jeff Trinkle)
  - Developed safety procedures for small machine shop.

- **DeLorme**—Yarmouth, ME *Technology Intern: 2011*
  - Developed a remote embedded system to track traffic. This system interfaced with the DeLorme inReach™ satellite communicator and DeLorme XMap GIS software.

Publications

- *Modeling the Effect of Nanofiller Geometry on Machining Responses in Advanced Composites* in preparation to be submitted to the ASME Journal of Manufacturing, Summer 2014
- *Effects of Bone Microstructure on Cutting Response as Seen in Orthopedic Surgery* poster presentation at RPI Undergraduate Research Symposium, 2012

Leadership Experience

- **RPI Professional Leadership Program**—Troy, NY *2013-2014*
  - Full year training program for management and leadership skills.

- **Phi Gamma Delta: Fraternity**—Troy, NY *Vice President of Community Service: 2013–present*

- **Pi Tau Sigma: Mechanical Engineering Honors Society**—Troy, NY

- **Boy Scouts of America**—Falmouth, ME *Eagle Scout: 2011*
  - Refurbished old unused bikes for donation to a local charity.

Relevant Course Work

- **Computational Physics**—Troy, NY *Spring, 2014*
  - Apply numerical algorithms to physics problems which do not have analytical solutions.

- **Introduction to Finite Element Analysis**—Troy, NY *Fall, 2013*
  - Introduction to Finite Element Method with solid mechanics to solve real world engineering problems. Special attention was payed to how to judge the quality of the numerical solution.

- **Micro-Machining of Bone**—Troy, NY *Fall, 2013*
  - Developed procedures and apparatus for microscale cutting tests.

Software

- Microsoft Office Suite, Python, C, C++, Matlab, NX, Solid Edge, Solid Works, Abaqus, Hypermesh, Linux, OSX, Windows

Awards

- **Dean's List**—Troy, NY *Spring, 2011–Present*
- **Rensselaer Polytechnic Founders Award of Excellence**—Troy, NY *May, 2013*
  - Awarded to top one percent of students to honor academic excellence, creativity, discovery and leadership.