

# DAVID A. KEYSER

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## EDUCATION

Carnegie Mellon University Pittsburgh, PA  
Master of Science in Mechanical Engineering, December 2014  
GPA: 4.00/4.00  
Bachelor of Science in Mechanical Engineering, May 2014  
GPA: 3.56/4.00

## RELEVANT EXPERIENCE

**Tesla Motors** Hawthorne, CA  
Studio Engineering Intern, Summer 2014

- Designed rapid prototyping device for automotive surface manufacturing
  - Implemented stepper motors to displace pins that simulate surface of vehicle
  - Researched piezoelectric actuators and shape memory alloys for use in future iterations
- Redesigned Model X Alpha Build front door hinges

**McKesson Automation Company** Cranberry, PA  
Mechanical Engineering Intern, Summer 2013

- Redesigned stanchion tube part of Anesthesia Cart for cost reduction
- Researched drive chain theory for MedCarousel to lengthen mean time between failures
- Researched fatigue stress in springs for PACMED to lengthen mean time between failures

**Siemens Corporation** Princeton, NJ  
Intern, Imaging Department, Summer 2011

- Operated 3-D scanning software to capture images of molds and documented dimensions for engineers to test and manufacture, and edited 3-D images with NX software

## LEADERSHIP

**Formula One Society of Automotive Engineers, Spring 2012 – present**  
Entirely Student-Run Organization that Researches, Designs, and Manufactures a Formula One Racecar that is raced in Competition. Currently Designing Electric Formula Racecar

1. Director of Driver Interface, Fall 2012 – Spring 2013
  - Responsible for implementation of systems the driver is in contact with
2. Designing and manufacturing pneumatic shifting system for 2013 racecar
  - Researched successful Formula teams and found they all use paddle shifters
  - Designed in-house pneumatic paddle shifting system, saved roughly \$500
  - Learned Arduino coding to utilize Arduino in pneumatic system
  - Surveyed drivers to determine the following
    - Pressing buttons less fatiguing than paddles, therefore shifting and emergency clutch buttons implemented
    - Activate clutch when the emergency clutch button is pressed, disengage when released; activate shift upon release of the shift button
3. Sponsorship Chair Fall 2012 – present

## PROJECTS

**Particle Flow & Tribology Lab, Fall 2013 – present**  
Research Assistant in Powder Subgroup

- Researched solid lubrication tribology and conducted experiments to determine the effects of friction on hip joint materials in order to lengthen mean time between failure

## SKILLS

**Software:** Microsoft Office, Pro/Engineer, ANSYS, Python, NX, ScanStudio HD, Solidworks, MatLab, Simulink, ADAMS, LabVIEW, Aduino Uno, Catia, Enovia  
**Machines:** Drill Press, Band Saw, Lathe

## ACTIVITIES & HONORS

CIT Dean's List, Fall 2012, Fall 2013, Spring 2014  
Yellow Belt Trained  
Varsity Track & Field Team, Carnegie Mellon, Discus & Javelin, 2010-2012  
Eagle Scout, Boys Scouts of America, 2010