

Alexander Malin

Email: malina3@rpi.edu | Phone: (702) 612-0576 | Address: 2171 12th St, Basement, Troy, NY 12180

Education

Rensselaer Polytechnic Institute, Troy NY
B. S. Mechanical Engineering

Expected Graduation: **May 2016**
Minor in Economics

Engineering Experience

Center for Automation Technologies and Systems

February 2013 – Present

Undergraduate Research Assistant

- ◆ Kinematic design and prototyping of an adaptive, independent two finger gripper for assistive robotics
- ◆ 3-Phase wiring in an industrial cabinet for a selective laser melting (SLM) machine
- ◆ Design and assembly of a charge amplifier, including board design and SMT placement
- ◆ Design, fabrication, and integration of a pneumatically actuated microscope cover
- ◆ Many other smaller mechanical and electrical design tasks

RPI Rock Raiders – NASA Sample Return Robot Challenge

September 2014 – Present

Mechanical and Electrical Lead

September – June

Team Leader

June – Present

- ◆ Design of an odometry control processor, implemented in an Altera Max 10 FPGA
- ◆ Organization, arrangement, and balancing of robot systems in adjustable 80/20 chassis
- ◆ Wiring of robot's power distribution
- ◆ Management of a dozen team members in large combined work sessions
- ◆ Complete design of a six-wheeled drive and suspension system including custom hub-motor assemblies

Space Vehicle Design – Senior Capstone Class

September 2015 – Present

Primary Structures Engineer

- ◆ Selection of COTS CubeSat structure, vibration analysis to ensure integrity through launch
- ◆ Balancing of system components for optimal spacecraft dynamics
- ◆ Design of space and mass constrained stereo camera deployment mechanism

Rensselaer Motorsport

September 2013 – May 2014

Aerodynamic Device Engineer

- ◆ Design and simulation of a rearward wing for use on a low speed open-wheeled car, including airfoil selection, analysis, and modification
- ◆ Construction of a hot-wire foam cutting tool for fabrication of wing molds

Relevant Skills

Programming: C (STM32, 8051, PsoC), C++, MATLAB

CAD/FEA: Autodesk Inventor with NASTRAN, Solidworks, Siemens NX

EDA: DipTrace, EAGLE

System Modeling: VisSim

Presentation and Graphics: LaTeX, Word, PowerPoint, Inkscape, GIMP 2, 3DS Max, KeyShot 5

Mathematical: Minitab, Maple, Excel