Ben Swartz

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Objective

- Dedicated and motivated senior, electrical engineering student an entry-level position in power electronics.

Education

B.S. Virginia Tech, December 2017 (expected)

- Major: Electrical Engineering
- Overall GPA: 3.82, In major GPA: 3.61
- Related coursework: Electronic Circuits, Continuous and Discrete Systems, Electromagnetic Fields, Microcontroller Programming and Interfacing

M.Ed. Marymount University, June 2011

- Major: Teaching English as a Second Language

B.A. University of Virginia, June 2007

- Major: Biology

Skills

Software and Programming

- **C/C++**: Creating and manipulating dynamic arrays and structs; extracting data from a text file; organizing data and outputting as a .csv file; developing solutions in Visual Studio
- **LTSpice**: Circuit modeling and simulation; plotting voltage, current, and power gain; identifying maximum power conditions; frequency sweeps and bandwidth of circuits
- **MATLAB**: Fourier/Laplace transforms of continuous and discrete LTI systems; analysis and graphical representation of data; simulation and analysis of electrical circuits
- **LabView**: Oscilloscope capture; AC and DC sweeps; plotting voltage, current, and power gain of electronic circuits
- **Autodesk Inventor**: 3D schematic drawing; connecting 3D models with 2D, standards-based drawings

Leadership

- **Team Captain**, NASA BIG Idea design challenge: formed a 5 member team and recruited a faculty advisor to enter a design into the 2016 BIG Idea challenge.

Design Teams

Senior Design Project – Design and Construction of Reduced-scale Railgun

- Worked in multidisciplinary teams to research and design an electromagnetic launcher system for a Navy sponsored research project. This was part of NEEC (Naval Engineering Education Center) at Virginia Tech partnered with Naval Surface Warfare Center (NSWC) Dahlgren Division.

NASA Big IDEA 2016

- Developed a design proposal for a Solar Electric Powered spacecraft for tugging spacecraft components from low earth orbit to lunar orbit. Design focused on modularity, simplicity and low-cost. Proposal included original CAD drawings created in Inventor.

Professional Memberships

- IEEE Power Electronics Society
- IEEE Power & Energy Society

Prior Work Experience

Teacher | University City School District | Sept. 2014 – June 2015

- Taught adult international students academic, job, and life skills in the context of improving English grammar and vocabulary. Ninety percent of students advanced at least one level on the CASA test

Teacher | Falls Church City Public Schools | Aug. 2011 – May 2014

- Taught ESOL high school students academic skills in the context of improving English grammar and vocabulary. Co-taught science and math classes. One hundred percent of my students passed all common core standardized tests.