

Alexander Vandenberg

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Portfolio: alexandervandenberg.github.io/portfolio
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Education

Northeastern University, Boston, MA

Dec. 2023

Candidate for Bachelor of Science in Mechanical Engineering, Minor in Mathematics

GPA: 3.92

Courses: System Analysis and Control, Measurement and Analysis, Introduction to Flight, Fluid Mechanics, Dynamics, Electrical Engineering, Mechanics of Materials, Thermodynamics, Statics, Material Science, Programming with Data

Activities: AerospaceNU Simulation, American Society of Mechanical Engineers, Club Spike Ball, Intramural Softball

Google, Coursera

Aug. 2022

Data Analytics Professional Certificate

Carmel High School, Carmel, NY

Jun. 2020

Activities: National Honor Society Vice President, Mentoring, Music Honor Society, Jazz Band, Area All State

Work Experience

Northeastern University, Boston, MA

Sep. 2022 - Present

Mechanical Engineering Tutor

- Tutored students in Measurement and Analysis, Dynamics, Thermodynamics, Mechanics of Materials, and Statics
- Supported students with homework problems, class projects, and studying for exams
- Offered advice related to finding co-ops, on campus employment, and class registration

Eemax/Rheem, Waterbury, CT

Jan. 2022 - Jul. 2022

Mechanical Engineering Co-op (Innovation, R&D, NPI, QA)

- Performed IP research and contributed to multiple potential patents, including “Insulated Tank with Diaphragm”, “Water Heater Inductive Charging”, “Cotton Tablet Leak Stop”, and “Hydrogen Powered Water Heater”
- Created SOLIDWORKS flow simulations to validate and improve new concepts for tankless electric water heaters
- Overhauled the company’s red tag data entry system using Excel and VBA
- Redesigned the flagship heater core to improve quality and saved up to \$35,000 by means of material reduction
- Prototyped several different designs for heating element removal wrenches; ensured prototypes would not fail under significant loads using FEA and physical testing
- Developed engineering change requests in PDM Vault. Implemented approved engineering changes and identified critical dimensions using SOLIDWORKS Inspection

Lamothermic Precision Investment Casting Corp, Brewster, NY

Jun. 2019 - Jul. 2019

Metal Parts Inspector

- Ensured parts passed a quality assurance test by grinding out defects
- Designated parts as “finished”, “needs to be sand blasted”, “needs to be welded”, or “scrap”
- Cleaned and maintained pneumatic tools

Carmel Central School District, Carmel, NY

Jul. 2017 - Sep. 2017

IT Worker

- Set up and wired computers for a high school, middle school, and two elementary schools
- Maintained computer internals and upgraded hard drives to solid state drives
- Solved computer, printer, and projector problems for teachers and school staff

Skills

Applications: SOLIDWORKS (CFD and FEA), Ansys Fluent, AutoCAD, Arduino, Fusion3 Reactor, PDM Vault, Tableau, Microsoft Office 365

Programming Languages: Python, MATLAB, VBA, C++, R, SQL, HTML