

# Alexander Vandenberg

254 Fayville Road, Galway NY 12074 | [vandenberg.a@northeastern.edu](mailto:vandenberg.a@northeastern.edu) | (845) 464-0097

Portfolio: TBD | LinkedIn: <https://bit.ly/3PanPIP>

## Education

**Northeastern University**, Boston, MA

May 2024

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

**GPA:** 3.87

**Courses:** Measurement and Analysis, Electrical Engineering, Dynamics, Mechanics of Materials, Thermodynamics, Statics, Programming with Data, Probability and Statistics, Differential Equations and Linear Algebra

**Activities:** AerospaceNU, American Society of Mechanical Engineers, Intramural Softball, Intramural Badminton, NU Outdoorsing Club

**Carmel High School**, Carmel, NY

Jun. 2020

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

## Skills

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

**Programming Languages:** Python, Excel VBA, C++, JavaScript, HTML

## Work Experience

**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”
- Performed numerous flow simulations to validate and improve new concepts for tankless electric water heaters
- Completely overhauled the company’s red tag data entry system using Excel VBA
- Redesigned the flagship heater core to improve quality and saved up to \$35k by means of material reduction
- Tested competing water heaters on the water heater test stand; compiled data to generate competitive test reports
- Prototyped several different designs for heating element removal wrenches; ensured prototypes would not fail under significant loads using FEA and physical testing
- Performed SIT on a soon to be released water heater
- Responsible for creating 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

- Ground out defects in thousands of metal parts and made sure parts passed a quality assurance test
- 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 the high school, middle school, and two elementary schools
- Cleaned out dust from inside computers and upgraded hard drives to solid state drives
- Assisted teachers with computer, printer, and other technology issues

## Interests

- Learning more about computational fluid dynamics, flight mechanics, and web development in my free time
- Outside of engineering: Selling firewood, hiking, relaxing at the lake, and being with friends