THEO AMENDOLA

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EDUCATION

May 2024

Northeastern University Boston, MA
Bachelor of Science in Mechanical Engineering
Minor in Piano Performance
GPA: 3.8
College of Engineering Dean's List: Fall 2020, 2021, 2022 Spring 2021
Relevant Coursework: Aerodynamics, Thermodynamics, Fluid Mechanics, ME Design, Dynamics, Mechanics of Materials, Materials Science

VOLUNTEERING

January 2021-present

Aerospace NU, Northeastern University
Propulsion Lead

- Led several and participated in countless water flow, cold flow, and static fire tests of a liquid-fueled rocket engine
- Delegated and oversaw several new systems including: swirl injector, automated spark ingition, CO2 fire suppression, motor-controlled proportioning valve
- Organized involvement and teaching efforts for fabrication, fluid mechanics, etc.
- Machined a fluid atomizing orifice plate to inject propellant to the engine

July 2023-present

Capstone Design Course, Northeastern University
Pulsejet Project

- Synthesized a project to determine flow characteristics of using a Tesla valve in a pulsating jet engine with four other students
- Independently performed design calculations to determine engine geometry and parameters such as thrust, frequency, mass flow rate, chamber pressure, etc.

EXPERIENCE

January-June 2023

Lydian Cambridge, MA
Mechanical Engineering Co-op

- Led the mechanical design of heterogenous catalysis reactors producing syngas
- Contributed to the development and submission of a patent application for specialized electrical contacts on ceramic foam
- Developed experiments to determine energy efficiency of reactor designs
- Evaluated feed system components for a pre-pilot plant system
- Performed heat transfer analyses of high temperature compressible flow feed systems
- Machined numerous prototypes in-house for rapid testing and development
- Researched durable and chemically resistant electrical contact methods such as: diffusion bonding, brazing, and ultrasonic welding

January-June 2022

Mesodyne Somerville, MA
Engineering Co-op

- Researched and developed procedures for the unfractured hermetic brazing of metals to ceramics
- Analyzed stress concentrations and fracture patterns in brazed sapphire samples
- Independently operated and maintained two vacuum brazing furnaces
- Engineered and fabricated a calorimeter system to measure heat transfer and evaluate the efficiency of thermophotovoltaic generators
- Facilitated the calorimetry data acquisition and analysis of several combustion setups