Zachary Raboin

10 Rose Lane Westford, MA 01886 | (978) 727 3057 | zrr1003@wildcats.unh.edu

Objective

Secure an internship performing a Mechanical Engineering role at Sig Sauer, Inc.

Education

The University of New Hampshire — **College of Engineering**

Bachelor of Science, Mechanical Engineering — Class of May 2020

Cumulative GPA: 4.0/4.0

Work Experience

Manufacturing Engineering Intern (Summer 2018 & Winter 2019) — **Sig Sauer Inc.**

Collaborated with engineers and toolmakers to design several fixtures solving a variety of problems encountered in the manufacturing process of Sig Sauer firearms. This involved modeling the fixtures in Solidworks, detailing the full drawing packages utilizing geometric dimensioning and tolerancing, making appropriate material and heat treatment selections, and contacting distributors to have each fixture built efficiently.

Mechanical Engineer (2018-present) — **UNH Rocket Design Team**

Currently working with several of my peers to design, manufacture, and test a fully functioning hybrid rocket engine, intended to reach 10,000 feet at apogee. Assist in design of rocket components as well as testing rigs, including a hot-fire test fixture equipped with various data measurement sensors (load cell, thermocouple, etc.). We plan to compete in Spaceport America Cup in Las Cruces, New Mexico.

Mathematics Tutor (2017-present) — **UNH Mathematics Center**

Dedicated to mastering the curriculum for every major math course and utilizing strong interpersonal skills to teach students struggling in those courses.

University Project Work — **MATLAB**

1. Tasked with designing and modeling a thermal management system to regulate temperature for high precision electronics inside a military drone sensor pod, based off an authentic DoD solicitation. The refrigeration system was modeled on MATLAB, accounting for countless external scenarios and non-ideal parameters. All research and simulation results were compiled in an extensive technical report following rigid ASME guidelines.
2. Developed MATLAB models to simulate the propulsion system powering a large subsonic military drone. This involved investigation of various fuels, aerodynamic effects, altitude dependencies, and device efficiencies. All data and conclusions synthesized to compose a comprehensive ASME report.

Relevant Coursework

Engineering/Physics

Physics I & II, Chemistry, Statics, Mechanics of Materials, Dynamics, Material Science, Solidworks Modeling, Engineering Computing (MATLAB), Thermodynamics, Circuit Analysis, Fluid Dynamics, Thermal Systems, Heat Transfer, Machine Design, Systems & Controls, Experimental Measurements & Data Analysis

Mathematics

Calculus I & II, Multidimensional Calculus, Differential Equations, Numerical Methods

German Language

5+ years of formal instruction

Achievements/Awards

Tau Beta Pi: Engineering Honor Society — **Fall 2018**

John H. Smith Mechanical Engineering Scholarship — **Fall 2017**

Dean's List/Highest Honors — **Fall 2016 through Fall 2018**

National German Exam Bronze Medal — **2013, 2014, 2016**