

Daniel T. Simpson

Boston, MA | (774) 232-0802 | daniel@undertheoak.net

[linkedin.com/in/daniel-t-simpson](https://www.linkedin.com/in/daniel-t-simpson) | danielsprojects.com

Education

Northeastern University – College of Engineering, Boston, MA

May 2024

Bachelor of Science in Mechanical Engineering (ME) with Minor in Mathematics

GPA: 3.90

Achievements: Dean's List, Dean's Scholarship, Honors College, Set to Graduate **Summa Cum Laude**

Coursework: ME Design, Computational Fluid Dynamics, Electrical Engineering, Heat Transfer, Materials Science, Probability & Statistics, Systems Analysis & Control, Senior Capstone I & II

Massachusetts Academy of Math and Science, Worcester, MA

May 2020

High School Diploma in association with the Worcester Polytechnic Institute

Achievements: National Honors Society Inductee, Dean's List, Highest Honor Roll

Coursework: Microeconomics, Materials Selection and Manufacturing, Leadership Practice, Computer Science (Java)

Skills

CAD: SolidWorks (CSWA), SolidWorks FEA & CFD Simulations, GD&T Technical Drawings, ANSYS Fluent

Programming: MATLAB, Python, Arduino C

Experience

Hydrilla Hunters

June – December 2023

Senior Capstone Project

- Created an autonomous boat that identifies invasive hydrilla in the Connecticut River alongside 11 students
- Team was granted Communication Award for technical report writing by the ME & Writing Departments
- Featured in several articles including News@Northeastern, The Robot Report, GovTech, & Hartford Courant
- Selected and setup electronics to enable successful autonomous GPS waypoint navigation
- Calculated boat performance metrics by referencing its onboard data logs from outdoor lake tests
- Validated preliminary designs with computational fluid dynamics simulation and cross-checked with theory
- Lead the propulsion team by assigning tasks, reviewing timelines, and communicating with other teams

Amazon Robotics

January – June 2023

Hardware Development Co-op

- Automated measurement procedures for multi-day experiments with PLC ladder logic programs
- Created Python scripts to parse through large data files and visualize distance over time
- Identified correlations between material properties, speed settings and item travel on a conveyor system
- Applied ASME human safety and ergonomic standards to drive part design

Desktop Metal

January – June 2022

Mechanical Engineering Co-op

- Created technical drawings using GD&T and supported dimensions through tolerance stack-ups
- Designed and machined parts with a milling machine to tolerances within a tenth of a millimeter
- Justified decisions during design reviews through rigorous structural calculations and FEA simulations

AerospaceNU Club – NUAV

September 2020 – September 2023

Senior Manager, Treasurer, and Project Lead

- Self-designed, built, assembled, and tested a small research drone for indoor autonomous tests
- Led the research of hardware designs for a drone-based payload swapping system
- Led the SolidWorks modeling, manufacturing, and development of a vibration-dampening camera gimbal
- Communicated with software groups to obtain test data and justify design decisions
- 3D modeled and tested parts for a unique dodeca-copter capable of carrying six X-frame quadcopters

Fun Items: Skis Recreationally, Loves Rock Climbing, Speaks Polish, and Raced FPV Drones