Andre Boufama

(603) 285-5685 andre.boufama@gmail.com Portfolio - https://aboufama.github.io/website/

Education

- Cornell University, B.S. Mechanical Engineering (Minor: Aerospace Engineering)   *Expected May 2027*
GPA: 3.91

Skills

- CAD 3D design: Fusion 360 (6 yrs), Blender (4 yrs) + Aerospace: VTOL UAV and Quadcopter build experience
- Programming: Python (5 yrs), C/C++ (3 yrs), JavaScript, ReactJS (2 yrs), Docker (2 yrs), API frameworks (3 yrs)
- Data Engineering: Azure SQL, Jupyter Notebook, Pandas + Data Analysis Microsoft PowerBI, Microsoft Power Apps

Personal Projects: [My Portfolio for Photos](https://aboufama.github.io/website/)

VTOL Drone Payload Delivery Platform
- Designed and manufactured 2m wingspan tilt rotor VTOL in Fusion360 using airfoil specifications based on system requirements

LoRaWAN Swarm Communication Rover
- Designed and programmed an all terrain rover, presented at IEEE MIT Undergraduate Research Technology Conference

Laparoscopic Surgery Training Device (Cornell Laparoscopic Surgery)
- Lead engineer at the Cornell Laparoscopic Surgery club designing and manufacturing training tools for non invasive surgery
- Designed and manufactured a novel foldable laparoscopic simulator under the guidance of organization founder Dr. James Rosser

Positions

Full Team Lead & Mechanical Lead at Cornell Physical Intelligence   *August 2025 - present*
- Developed two quadcopter research platforms, led team of engineers to further the design using FEA and topology optimization
- Engaged in development of ground based animal inspired robots, VTOL platforms, and other novel robotic hardware platforms

LoRaWAN Robotics Swarm Control Research, University of New Hampshire   *June 2022 - August 2023*
- Designed and implemented a LoRa based swarm communication prototype for drones and ground robots; presented poster at New Hampshire EPSCoR Summer STEM Symposium and at IEEE MIT Undergraduate Research Technology Conference

Data Engineer Intern at Taylor Fresh Foods   *July 2024 - May 2025*
- Programmed Microsoft Powerapps functions integrated with Databricks to optimize energy efficiency and collect environmental data for more efficient warehouse energy partitioning
- Co-developed with Walmart automatic intercompany document parsing/routing system using Microsoft Powerapps
- Trained multiplatform genAI RAG for internal indexing using Databricks data lakehouse and deployed company wide for internal testing, presented for senior leadership

AI Summer Camp Counselor, EPIC robotic programming camp   *July 2021 - August 2025*
- Trained 6DOF robot arms using Nvidia Groot N1 foundation model and ran imitation learning demonstrations
- Designed coding and AI focused curriculum and robotics activities for middle schoolers; led classroom instruction and supervised five camp volunteers and 200+ campers

Camp Counselor, Camp Horizons   *June 2025 - August 2025*
- Supported 24/7 campers of all ages with developmental disabilities to provide a classic summer camp experience

Awards

- U.S. Presidential Scholar (one of five finalists in the state)
- Modular Hydroponics System, won First Prize Award in Autodesk "Green Future Student Design Challenge" (https://aboufama.github.io/website/), Top 50 Autodesk Instructables of 2024
- Overpass Oasis Suspension Bridge, First Prize Award, Autodesk "Make it Bridge" Design Challenge (https://aboufama.github.io/website/)