

Alexander G. Smith

Grove City, PA | 724-967-5200 | ags272@cornell.edu | [linkedin.com/in/smithgalex70](https://www.linkedin.com/in/smithgalex70)

EDUCATION

Cornell University

Bachelor of Science in Mechanical Engineering (Expected May 2029) | GPA: 3.52

Aug. 2025 – Present

Ithaca, NY

PROJECTS

Tiltrotor Integration | CUAir

Nov. 2025 – Mar. 2026

- Designed and integrated a tiltrotor mechanism with motor and servo mounts for a fixed-wing test aircraft
- Performed calculations to determine center of gravity, pitching moment, thrust-to-weight ratio and conducted hinge load testing to validate system stability prior to flight
- Successfully demonstrated vertical takeoff, landing, and hover-to-forward-flight transition

Lighthouse Localization | Napp Lab

June 2026 - Present

- Developing a robot localization system using SteamVR Lighthouse sensors and a custom PCB to determine position relative to fixed base stations
- Integrating and modifying existing C firmware for a custom RP2040-based design, adapting lighthouse signal processing to new hardware
- Debugging and testing sensor data acquisition to validate accurate lighthouse measurements and system operation

ACTIVITIES / SOCIETIES

CUAir | Structures and Payloads Subteam Member

Nov. 2025 – Present

- Developing autonomous UAV for search-and-rescue missions with student engineering team
- Designing mechatronics systems, with emphasis on tiltrotor integration for test platforms

Community of Rural Engineers | Co-Chair of Outreach

Aug. 2025 – Present

- Planning an outreach initiative featuring Cornell student stories to encourage rural students to pursue engineering
- Leading outreach initiatives connecting rural high school students with Cornell Engineering students and resources

Cornell Science Olympiad | Event Supervisor

Sep. 2025 – Nov. 2025

- Designed a motor assembly and produced four pages of technical drawings for Engineering CAD competition
- Managed competition logistics for 65 teams, ensuring consistent and fair execution

WORK EXPERIENCE

Cornell Duffield Engineering Admissions | Office Assistant

June 2026 – Aug 2026

- Compiled information on high schools and key contacts to improve Cornell Engineering's ability to communicate and build relationships with schools
- Supported engineering information sessions and admissions events for prospective students and families
- Engaged with prospective students and families, answering questions about engineering academics and student life

Grove City YMCA | Lifeguard / Pool Supervisor (2025 season)

May 2022 – Aug. 2025

- Supervised and coordinated 6+ on-duty lifeguards to ensure employee and patron safety
- Managed daily pool operations for up to 150 concurrent customers
- Led staff trainings and emergency preparedness drills, ensuring rapid and effective emergency response

SKILLS

CAD — Solidworks | Onshape

Programming — Python | C (Embedded)

Fabrication — 3D Printing | Parts Manufacturing | Rapid Prototyping

Engineering — Mechanical Design | Material Selection | Technical Drawings

Hardware — PCB Design | RP2040