

Lydia Woodall

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EDUCATION:

Cornell University, College of Engineering, Ithaca, NY

May 2028

Bachelors of Science in Mechanical and Aerospace Engineering | GPA: 3.281

Relevant Courses: ENGRD 2020 Statics and Mechanics of Solids, ENGRD 2210 Thermodynamics, ENGRD 2100 Intro to Circuits, Phys 2213 Electromagnetism, Math 2930 Differential Equations, Math 1920 Multivariable Calculus

Awards: AP Scholar with distinction, Girl Scout Silver Award, Girl Scout Silver Torch, Girl Scout Safety Award, Girl Scout Summit Award

EXPERIENCE:

Cornell Electric Vehicles Steering Mechanical Subteam Member:

(November 2024-Present)

- Collaborated with 70+ engineers to build a hyper-efficient autonomous electric vehicle, coming in 5th on the track and winning two Off-track awards and \$4500 from [Shell Eco Marathon](#) Americas competition.
- Developing autonomous steering system and benchtop with simulated load to test automated steering
- Designed and manufactured secure housing for devices experiencing up to 1.5 g forces and heavy vibration

VCU Research Assistant :

(January-July 2024)

- Performed fault injection experiment on quadcopter drones in VCU Electrical Engineering Lab
- Contributing author on paper published in AIAA: *Realization of a Pervasive Runtime Monitoring Architecture for In-Time Hazard Detection in UAM Systems*

First Robotics Competition Team 422 CEO:

(2020-2024)

- Led team of 82 to be a top 1% performance team from 3,000 active competing teams
- Led team meetings, managed annual budget of \$50,000, daily code reviews and edits, organize travel for fifty students to four competitions: contributed on average 43 hours per week

First Tech Challenge Team 16537 Team Captain:

(2019-2024)

- Co-Founded FTC robotics team in rural hometown, 11 hours/wk; created and CADded autonomous systems
- FIRST Tech Challenge robotics team captain (2020-2024), Programming lead (2019-2020)
- Designed turret, intake, and transfer mechanisms across multiple robots alongside smaller part design
- Organized, ran, and judged annual LOGICoyote CAD Challenge with 241 participants (2020 - 2023)

York County Parks and Recreation Summer Fun Recreation leader:

(June 2025 - August 2025)

- Led daily activities and managed groups of 30+ children ages 6–8, developing strong communication, problem-solving, and teamwork skills in dynamic, fast-paced environments

SKILLS:

CAD: Solidworks (6 years experience), Fusion360 (5 years experience), Onshape(4 years experience), Inventor (2 year experience)

Machining: Manual Lathe, Manual Mill, 3D printing, laser cutting

Object Oriented Java projects including:

- object detection of other robots and game pieces at 20 feet/second
- Robot movement, including tuning Feedforward and PID systems
- Robot localization through April Tags within .125s at 1 inch accuracy

Python:

- Performed fault injection experiment utilizing ROS2 in quadcopter drone simulated environment

ACTIVITIES :

Cornell Maker Club - Member

(2024-present)

St Peter's Episcopal Youth Commission - Managed \$1500 budget and fundraising events

(2017-2024)

New Kent Robotics:

- Started and taught robotics weekly homeschool co-op for middle and high schoolers
- Started and helped run robotics club for elementary school students in rural community

(2023-2024)

(2023-2024)

Girl Scouts of America - Taught 3 robotics girl scout badges to 50 girl scouts

(2022)

Other: Intermediate Mandarin, Elementary ASL, Elementary French