Lilly George

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OBJECTIVE:

I am a driven and enthusiastic mechanical engineering student at Purdue University, eager to gain experience in the automotive/motorsports industries and to drive innovation in the workplace. I am experienced in design, testing, and validation of mechanical components.

EDUCATION:

***Purdue University**, West Lafayette, IN* Class of 2028

Bachelor of Science in Mechanical Engineering, Materials Science and Engineering Minor GPA 3.4

WORK/PROFESSIONAL EXPERIENCE:

Honda American Motor Company *(Haw River, NC)* *May 2026 – August 2026*

Mechanical Engineering Test Intern (Powersports Product Development)

- Modeled (Catia), prototyped, tested, and validated solution to mower blade plate serviceability issue
- Set up collection of and correlated commercial mower strain gauge/accelerometer data to hydraulic actuator movement to create in-place drive test
- Performed various tests with strict parameters on lawnmowers to ensure regulations were met

Cummins, Inc. – *Seymour, IN* June 2025 – August 2025

Mechanical Engineering Intern: Air Handling and Performance team (Power Systems Business Unit)

- Worked with 60L generator sets (16 cylinders, 4 turbochargers)
- Acted as connection between turbo design team and engine creation team
- Helped determine what testing needed to be done an engine program in the development stage based on lists of previous testing and knowledge of previous and current issues on the engine

Crumbl Cookies – *North Fayette, PA* June 2022 – October 2024

Baker

- Exceptional customer service while preparing, decorating, and serving cookies

Moon Area Gymnastics Association – *Moon Township, PA* December 2021 – May 2024

Coach

- Instructed gymnasts aged 6-13 alongside 2 to 4 coworkers on skill techniques and safety through physically spotting, verbal corrections, and physical demonstrations to improve their gymnastics ability
- Choreographed and taught a class of 20 gymnasts a 3-minute routine to perform in a showcase

ACADEMIC PROJECT EXPERIENCE:

Purdue Electric Racing (PER – Electric Formula SAE Team) August 2024 – Present

Vehicle dynamics subteam

Sophomore Year:

- UTM testing of mock suspension members: design of jaw adapters and analysis of gathered data
- Designing, validating, and manufacturing all suspension control arm tabs

- Was in charge of onboarding all new members

Freshman Year:

- Designed camber plates and a steering angle sensor mount
- Aiding in assembly; jigging support arms and gussets for welding, fitting steering rack

Undergraduate Research – Anasori Lab Spring 2026 - Present

- Spring 2026:
    - Investigating implications and feasibility of rare earth metal doped MXenes for semiconductive and magnetic applications.
    - Onboarding to the lab; lab safety modules, hands on hydrofluoric acid training, and reading prior work.

Honors Engineering 161/162 Spring 2025/Fall 2026

- Smog Free Tower Evaluation
    - Creating a computational model of an electrostatic precipitator for smog reduction by accounting for the movement of air and its particulate matter.
- Disaster Relief Rover
    - Used given materials to create a small-scale rover that can carry and deliver cargo through disaster areas while following a wall and avoiding magnetic and infrared hazards.
- Mars Rover
    - Used given materials to create a "Mars Rover" that could follow a line, traverse "terrain", avoid moving obstacles, carry cargo, and dispense cargo.

RELEVANT COURSEWORK:

Mechanics of Materials + Lab Spring 2026

- Statically indeterminate structures, combined loading, Castigliano's Second Theorem, Mohr's Circle,

Electrical Engineering Fundamentals I + Lab Spring 2026

- Linear and first order circuit evaluation and design using Kirchoff's Laws.

Structure and Properties of Materials (Materials Science and Engineering) Spring 2026

- A deep dive into all materials' structures, processing, properties, and more.

Introduction to Manufacturing and Design Fall 2025

- Lathes, mills, CNC lathes, CNC mills, wood and metal lasers, woodworking machines.
- Designed and manufactured a desktop organizer using limited materials and product requirements.

Thermodynamics I Fall 2025

- Modeling different thermodynamic systems using energy balance, entropy balance, mass balance, and other equations.

Mechanics II (Dynamics) Fall 2025

- Evaluating moving reference frames, different types of coordinate systems, rigid body kinematics, non-rigid body kinematics, the Newton-Euler equation, and equations of motion.

Mechanics I (Statics) Summer 2025

- Frictional forces, trusses, shear force, bending moments, and internal loading in members.

MFET 163 – Graphical Communication and Spatial Analysis Spring 2025

- Using Siemens NX, Siemens Teamcenter, and Anark Collaboration Server
- Creating various detailed CAD models and assemblies.

TEACHING AND MENTORING:

Women in Engineering 1:1 Mentor Program Fall 2025 – current

- Was a mentee as a freshman, met with mentor every month; assigned a mentee as a sophomore
- Aid mentee in navigating college, being a woman in engineering, and professional development

Church Camp Counselor – *St. Margaret Mary Church* June 2021-2024

- Led small and medium-sized groups of children aged 7 to 10 years old with 3 to 4 other volunteers.
- Through Most Sacred Heart of Jesus Parish and St. Philip's Church (Moon Twp, PA)

LEADERSHIP AND TEAM EXPERIENCES:

STUNT Team – *Purdue University* August 2024 – May 2025

- Practiced for 9 hours a week with around 15 other girls to learn 20 stunt and jumps/tumbling routines
- Part of inaugural team; contributed to first game victory; traveled and attended two tournaments

President of Women in STEM Club – *Moon Area High School* August-May 2021-2024

- Organized and oversaw a STEM fair for 2nd grade students.
- Created engineering, biology, chemistry, math, and review subgroups within different classrooms

RELEVANT EXTRACURRICULARS:

Women in Engineering (WiE) Program: August 2024 – Present

- Attend events meant for connection and networking with other women in engineering at Purdue
- Mentoring a freshman through a 1:1 mentor/mentee program

Honors College Racing Crew: August 2024 – May 2025

- Pit crew for two karts; replaced an axle, changed sprocket gears, etc. under time constraints

VOLUNTEER EXPERIENCE:

Pittsburgh Vintage Grand Prix*, Pittsburgh, PA* June 2015 - Present

Volunteer

- Raise $300,000 for charities benefiting autism by working at various car shows each summer
- Register and park over 300 cars each day for three days of car shows

AWARDS, HONORS, FELLOWSHIPS, AND SCHOLARSHIPS:

- Alpha Lambda Delta/Phi Eta Sigma Honors Society member (Inducted 2025)
- John Martinson Honors College member
- Purdue Semester Dean's List and Honors (2x, 3x)
- Commended by the National Merit Scholarship Program (2024)
- Moon Area Band Parent Organization Scholarship Recipient (2024)
- Moon Area Education Foundation Scholarship Recipient (2024)