

Lukas Fluegge

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Carnegie Mellon University | Pittsburgh, PA

Bachelor of Science in Mechanical Engineering | GPA 4.0/4.0 | May 2029

Liberty High School | Renton, WA

High School Diploma | GPA 3.99/4.0 | June 2025

PROJECT EXPERIENCE

Carnegie Mellon Biorobotics Lab | Undergraduate Researcher | September 2026 – Present

- Assembled snake-robot modules, including gearboxes, wiring, and soldered electrical connections
- Reviewed technical literature to evaluate the weight and strength tradeoffs of replacing steel gears with titanium in snake-robot modules

Carnegie Mellon Racing | September 2025 - May 2026

- Engineered side diffuser seals and barge boards using SolidWorks, maximizing underbody pressure differential
- Performed iterative CFD and FEA simulations to produce data-driven designs and ensure structural durability
- Executed the manufacturing cycle for aero-elements, including mold preparation, composite layup, and final trim

First Tech Challenge High School Robotics | September 2021 - July 2025

- Led the mechanical design team, creating all CAD for custom 3D-printed and aluminum robot components
 - Directed the manufacturing pipeline, using 3D printers and plasma cutters to build the competition robot
 - Earned the Design Award and placed Second Overall out of 191 teams in the Washington State Championship, qualifying for the Michiana World Premiere Event
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WORK EXPERIENCE

Kenworth Advanced Manufacturing Engineering | Intern | Kirkland, WA | May 2026 - August 2026

- Designed a lightweight training equipment rack in Creo, optimized for easy cross-plant shipping and local mobility; led development through multiple iterations, design reviews, and testing procedures
- Built dashboards in Power BI to visualize software test statistics derived from an SQL database
- Interviewed management to update the plant process map and quality assessment documentation
- Completed specialized training in Design for Assembly and Geometric Dimensioning & Tolerancing

Summer of STEM Robotics Camp | Facilitator and Counselor | Renton, WA | June 2024 - August 2024

- Developed and implemented a two-week curriculum to teach fundamental CAD skills to middle school students
 - Trained and led camp staff on curriculum delivery, ensuring consistent program quality
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LEADERSHIP AND MENTORSHIP EXPERIENCE

Liberty High School DECA | Executive Board Officer | September 2023 - June 2025

- Coordinated competition logistics, including travel, hotel arrangements, and transportation for all events
- Exercised decisive leadership in high-pressure environments, resolving real-time logistical conflicts

Apollo Elementary & Liberty High School Robotics Teams | Mentor | October 2023 – December 2024

- Mentored students across elementary and high school teams in the full robot development cycle
 - Established and tracked detailed timelines, ensuring the successful achievement of team goals and milestones
 - Designed a competition for peers with intellectual disabilities (Unified Robotics)
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SKILLS

Software: SolidWorks, Creo Parametric, Onshape, Power BI, SQL, Luminary, Ansys Mechanical, Python, Java, MATLAB

Fabrication: 3D Printer, Laser Cutter, Soldering, Mill, Plasma Cutter, Band Saw, Table Saw, Drill Press

ACTIVITIES & HONORS

DECA Market Research Paper National Qualifier | 2024-2025

DECA Stock Market Game National Finalist | 2025

Two-Time Regional FIRST Impact Award Winner | 2023-2024

Body Rock Competitive Breakdancing Crew | 2021-2025

Club Baseball Catcher | 2018-2026