

Luca Thorson

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Education

University of Pennsylvania, School of Engineering and Applied Science, *Philadelphia, PA* Aug 2022 – May 2026

Major: BSE in Mechanical Engineering and Applied Mechanics | *Minor:* Engineering Entrepreneurship | *Cumulative GPA:* 3.70/4.00

Relevant Coursework: Fluid Mechanics, Mechanics of Solids, Engineering Dynamics, Calculus 4, Linear Algebra, Differential Equations, Machine Design and Manufacturing, Product Design

Paul Laurence Dunbar High School, Math, Science, Technology Center, *Lexington, KY* May 2022

Cumulative GPA: 4.78/4.00

Honors: Science National Honor Society, AP Scholar w/ Distinction, KY Governor's Scholar, USA Swimming '21 & '22 State Champ

Professional Experience

Penn Electric Racing

Philadelphia, PA

Mechanical Engineer

Aug 2023 – Present

- Designed a chain and sprocket system, considering gear ratio output, material properties, and loads; used static and fatigue simulations to validate; and integrated with REV X our team's 2025 rendition of the FSAE Formula-style electric vehicle.
- Designed brake and accelerator pedals using FEA to optimize weight, then machined, and installed them on REV 9.
- Produced carbon fiber and copper composite aerodynamic elements on-site, manufacturing at Leading Edge Composites.

Laboratoire Interdisciplinaire de Physique

Grenoble, FR

Research Assistant

May 2024 – Aug 2024

- Developed a program in C using Brownian dynamics to simulate topoisomerase protein behavior during DNA transcription.

University of Kentucky College of Engineering

Lexington, KY

Grady Lab Research Assistant

Jan 2020 – Aug 2022

- Designed and executed an experiment to use laser spallation for the ejection of cancerous cells from a healthy/cancerous cell mixture, leveraging their reduced adhesiveness compared to healthy cells.
- Modeled, built, and programmed a device using AutoCAD Inventor and LabView to catch cells ejected in the experiment.

Leadership Experience

Introduction To Mechanical Design

Philadelphia, PA

Teaching Assistant

Jan 2023 - Present

- Led a section of ~20 students, teaching SolidWorks, prototyping, laser cutting, and 3D printing.
- Provide consistent support to students through weekly office hours, aiding with exercises and projects.

Penn Ski & Snowboard

Philadelphia, PA

Social Chair

April 2024 - Present

- Planned and executed a variety of social events, coordinating with venues and caterers.

Merchandise Chair

April 2023 – April 2024

- Designed various Ski Team branded clothes and accessories using the Adobe Creative Suite.
- Managed the sourcing, shipping and selling of the merchandise.

Wharton Undergraduate Entrepreneurship

Philadelphia, PA

Technology Committee Member

Sept 2022 – May 2024

- Researched and reported on upcoming technologies, theorizing on how they can be turned into a business venture.

Projects

Stirling Engine | Machine Design and Manufacturing Term Project

Sept 2023 – Present

- Designed and manufactured functioning Stirling engine using SolidWorks and precision machining.
- Leveraged skills in Mastercam, Prototrak Mills, lathes, and Tolerance Stack-up analysis.

Trash Detector | Silicon Garage Term Project

Feb 2023 – Apr 2023

- Designed and programmed an Arduino-based sensor to send SMS alerts when remote trash bins, such as those in national parks, reach full capacity.

Technical Skills

CAD: SolidWorks (Certified), Inventor (Certified), Mastercam, Ansys | **Programming:** Java/Python/C++/MatLab/LabView

Manufacturing: Milling, Lathing, 3D Printing, Laser cutting | **Other:** Adobe Photoshop/Illustrator, French Proficiency