

Benjamin Lombard

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SUMMARY

Graduating mechanical engineering student with proven experience in CAD modeling and mechanical design seeking a full-time engineering role in the aerospace industry.

EDUCATION

University of Connecticut

Bachelor of Science, Mechanical Engineering | GPA: 3.99 | Dean's List (All Semesters)

Storrs, CT

May 2025

Coursework: Solidworks, Engineering Simulations, Python, Aerodynamics, Computational Mechanics, Thermodynamics, Fluid Dynamics, Heat Transfer, Design of Machine Elements, Mechanical Vibrations

SKILLS

Solidworks, ANSYS, MATLAB, Python, Excel, Jupyter Notebooks, Revit, MS Office Suite

RELEVANT EXPERIENCE

University of Connecticut

Peter Paul Electronics - Senior Design Project

Storrs, CT

August 2024 – Present

Develop a prototype of a pneumatic compression system for methane wellheads to capture and compress rogue methane emissions, reducing environmental impacts and converting the emissions into usable fuel.

- Achieve target pressures within 1% tolerance through the development of a piston/cylinder prototype.
- Create Solidworks and ANSYS models that accommodate the expanding project scope, enabling the team to consistently meet project objectives ahead of schedule.
- Reduce numerical simulation time by 50% by developing Python scripts that streamline and optimize the process from design to fabrication and testing.
- Enhance data precision by a factor of 100 using a microcontroller to automate pressure data collection.
- Prepare technical reports for corporate sponsor and present findings to lead engineer.

University of Connecticut

Dr. Xinyu Zhao - Independent Study

Storrs, CT

January 2025 – Present

Develop Jupyter notebook-based Python programs to be incorporated into a heat transfer textbook.

- Write Python scripts on heat transfer topics of view factors, radiation, convection, and heat exchangers.
- Enhance data analysis utilizing Monte Carlo solvers, digitizing tables, and developing online calculators.
- Include extensive comments in scripts to facilitate understanding to non-technical audiences.

Salas O'Brien

Mechanical Engineering Intern

Bloomfield, CT

May 2024 – August 2024

- Calculated energy demands of buildings and provided senior engineers with airflow requirements to accurately size HVAC systems, maximizing energy efficiency and minimizing customer costs.
- Designed 3D models using Revit, integrating blueprint specifications to ensure ductwork and piping fit the physical space constraints.
- Reduced calculation time by 20% when determining blower motor size by creating Excel templates.
- Estimated radiative heat transfer from an industrial oven, prepared a technical report, and presented conclusions with supporting recommendations to senior engineers for use in the final system design.

University of Connecticut

Dr. Chao Hu – Research Assistant

Storrs, CT

August 2023 – December 2023

- Studied battery health monitoring of lithium-ion batteries to develop life predictions using field data.
- Developed the skills to code basic neural networks.

CERTIFICATIONS

Certified SolidWorks Associate (CSWA) – Mechanical Design

June 2023

- Sketch Entities, Tools, Relations, Dimensions, Mass Properties, Mating, Reference Geometry, Annotations.

Extracurriculars – Small engine repair, design/build microcontroller robotics, home improvement