

Elise S. Boisson

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Bachelor of Science, Mechanical Engineering
GPA: 3.76, Spring 2025

Aug. 2024 – May 2027

Relevant Courses: Statics, Dynamics, Physics III (Oscillations, Waves, and Quantum Physics), Multivariable Calculus, Differential Equations, Linear Algebra, Honors General Inorganic Chemistry, Probability and Statistics
Currently Taking: Fluid Mechanics, Mechanics of Engineering Materials, Thermodynamics

ENGINEERING & TECHNICAL EXPERIENCE

Cornell Entertainment, Engineering, and Design Club, Mechanical Design Member Feb. 2025 – Present

- Collaborated with a cross-disciplinary team to design and prototype an animatronic axolotl, focusing on mechanical design and actuation systems.
- Created custom mechanical components in Fusion 360 for 3D printing and assembly.
- Developed, iterated, and tested multiple CAD designs to optimize motion, assembly efficiency, and reliability.
- Applied engineering problem-solving to troubleshoot mechanical issues and refine prototype performance.

Academic Excellence Workshop for General Chemistry, Cornell University, *Facilitator* Aug. 2025 – Present

- Leading a two-hour review session on general chemistry for a class of 20 students
- Collaborating with a co-facilitator to foster a supportive and engaging learning environment
- Creating instructional materials, including slides and worksheets, to enhance student understanding

The Rockefeller University, PI Prof. Jean-Laurent Casanova, HHMI Research Intern Jun. – Aug. 2025

- Participated in HHMI's Summer Undergraduate Research Program
- Mapped the functional elements of 3'-untranslated regions in just under 20k MANE transcripts
- Filtered and organized over 100k entries databases on genetic features using Python on Jupyter Notebook
- Presented weekly slide updates to mentor and attended lab meetings to stay informed on ongoing projects
- Synthesized 9 weeks of research into a 5-minute presentation to students and mentors in related fields

Weill Cornell Medicine, PI Prof. Carl Nathan, Research Intern Jul. – Sep. 2023

- Conducted protein purifications and enzyme kinetic experiments on proteins from drug-resistant bacteria
- Tested buffer and reaction conditions to maximize substrate production in enzyme kinetic experiment
- Wrote research paper and submitted to research contest, 1st place in Microbiology at Terra NYC STEM Fair 2024

Weill Cornell Medicine, PI Prof. Carl Nathan, Research Intern Jul. – Sep. 2022

- Isolated drug-resistant bacteria to research the potential target and pathway of the drug
- Learned pipetting skills through over 20 two-fold drug dilutions for 8 samples
- Improved my understanding of research project through close reading over 15 scientific articles

OTHER EXPERIENCE

Gymtime Rhythm & Glues NYC Summer Camp, Counselor Jul. – Aug. 2024

- Worked closely with a team to ensure safety and efficiency in daily group operations for 14 children.
- Demonstrated attention to detail, adaptability, and strong communication in a dynamic environment.

TECHNICAL SKILLS

- **CAD & Design:** SolidWorks, Fusion 360, AutoCAD
- **Programming & Analysis:** Python, Java, Excel, Prism
- **Fabrication:** Manual mill operation, lathe operation, 3D printing
- **Other:** Adobe Photoshop, Word
- **Languages:** French (Fluent)