

Robert Brown

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Education

Cornell University (Expected May 2027)

GPA: 4.02

B.S. in Mechanical Engineering

Relevant Coursework: Differential Equations, Statics and Mechanics of Solids, Physics III: Waves, Thermodynamics

Experience

Cornell Mars Rover Engineering Project Team, Arm Subteam

Jan. 2024 - Present

- Work with team to design, manufacture, and test rover which competes in annual University Rover Challenge.
- Use Autodesk Inventor, ANSYS, 3D Printing, and Lathe/Mill Machining.
- Currently designing cycloidal gearboxes for arm joints.

CME Associates Material Testing Intern

May 2024 – Aug. 2024

- Tested material properties of concrete, soil, and asphalt at construction sites to ensure accordance with engineering specifications.
- Based on the results either cleared crews to proceed or mandated that additional measures be taken. Also drafted reports and shadowed senior inspectors.
- Obtained APNGA Nuclear Gauge and ACI Grade I certifications.

Research Assistant, University of Rochester Hajim School of Engineering

June 2022 - Aug. 2022

- Assisted in hydrogel testing project with Prof. Benoit, formulated and performed experiments, collaborated with lab members.
- Learned tissue culture, mechanical testing, and SolidWorks. Contributed to poster: Ling K, Srivatsava A, Deans A, **Brown RM**, et al. (2023) “Developing Perfusable Vasculature for an Outer Retinal Blood Barrier-on-a-Chip” *Microphysiological Systems World Summit, Berlin*.

Research Assistant, University of Rochester Hajim School of Engineering

May 2020 - Dec. 2021

- Assisted in metastasis project under the supervision of Prof. Brown.
- Performed image analysis of collagen fibers and implemented image analysis programs using ImageJ resulting in a peer-reviewed publication:
Desa DE, Wu W, **Brown RM**, Brown EB IV, Hill RL, Turner BM, Brown EB III (2022) “Second-Harmonic Generation Imaging Reveals Changes in Breast Tumor Collagen Induced by Neoadjuvant Chemotherapy” *Cancers*. Feb 9; 14(4):857.

Extracurriculars

Calculus II Workshop Facilitator

Sept. 2024 – Present

- Collaborate with co-facilitator to lead weekly workshops, create stimulating problem sets, and attend training sessions. Selected from competitive applicant pool.

Big Red Pep Band

Sept. 2024 - Present

Cornell Chess Club

Sept. 2023 - Present

Honors

Monroe Professional Engineers Society Alstom Signaling Inc. Scholarship

2023 - 2027

Polish Heritage Society of Rochester Scholarship

2023 - 2027

HFL Rebecca Sue Bean Scholarship

2023 - 2027

Skills:

Proficiency (1-5)

Autodesk Inventor (4), SolidWorks (2), Python (4), JAVA (3), ImageJ (2), Microsoft Suite (3), ANSYS (1), Machining (2)