

# Robin Hur

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## Education

<b>University of Virginia, School of Engineering and Applied Science</b> <i>B.S in Mechanical Engineering, GPA: 3.72</i>	<b>Charlottesville, VA   2024–2027</b>
<b>Garnet Valley High School</b> <i>Class of 2024, GPA: 4.31/4.50</i>	<b>Glen Mills, PA   2020–2024</b>

## Skills

- **Design & Analysis:** SOLIDWORKS (CSWA), Autodesk Fusion, Bambu Studio, GD&T, Python, Microsoft Office, FEA, Fabrication & Rapid Prototyping, Technical Documentation
- **Languages:** English (native), Korean (fluent), French (intermediate)

## Experience

<b>Undergraduate Research Assistant, UVA Dept. of Chemical Engineering</b>	<b>Aug 2024 – Nov 2025</b>
• Conducted all-atom molecular dynamics simulations using AMBER to study hydrogel formation at the atomic level	
• Developed and managed 100+ simulation setup files with systematic organization workflows	
• Automated Python analysis workflows, generating standardized CSV outputs; enabled version-controlled sharing via Git for supplementary materials	
• Generated and visualized molecular trajectories using VMD to analyze structural evolution and molecular interactions	
• Produced publication-quality figures and supplementary data; contributed written sections, data interpretation, and curated datasets to a manuscript currently under review	
<b>Research Outputs</b>	
• Publication: <a href="https://doi.org/10.26434/chemrxiv-2026-8jxvq">https://doi.org/10.26434/chemrxiv-2026-8jxvq</a> (ChemRxiv preprint)	<b>Jan 2026</b>
• Poster presentation at UVA Biomaterials Research Symposium	<b>Jul 2025</b>
<b>Undergraduate Teacher Assistant, UVA Dept. of Electrical and Computer Engineering</b>	<b>Jan 2026 – Present</b>
• Support students during and outside of the classroom by answering questions and reinforcing course material	
• Assist with grading assignments, providing timely and constructive feedback	
• Work closely with course instructors and Graduate head TAs to help prepare and manage course materials	
<b>Bridge Program Counselor, UVA School of Engineering and Applied Sciences</b>	<b>Jul – Aug 2025</b>
• Mentored 38 first-year engineering students as part of a 6-member counselor team during a 3.5-week residential program, guiding academic, social, and personal development	
• Served as a Resident Advisor, cultivating an inclusive, supportive community that promoted student engagement	
• Led pre-calculus tutoring sessions, strengthening foundational skills and improving students' readiness for college-level coursework	

## Projects

<b>Mechatronics and Robotics Society, Mechanical Subteam</b>	<b>Aug 2025 – Present</b>
• Designing and building a robot for the NASA Lunabotics competition	
• Developed CAD models for a Lunabotics-style robot capable of manipulating lunar regolith	
• Conducted research on vibration frequency effects in granular material flow to optimize excavation subsystem performance	
<b>Potential Energy Propulsion Racer, Project Member</b>	<b>Nov 2025</b>
• Collaborated on an engineering team to design and build a 3D-printed, potential-energy-powered racing vehicle	
• Applied CAD modeling, mechanical transmission design, and prototyping to develop and optimize vehicle components	
• Delivered final technical report and curated comprehensive inventory of CAD parts, assemblies, and design files	
<b>Clean My Water, Project Consultant</b>	<b>Jan – May 2025</b>
• Led a team developing a portable, low-cost water filtration device targeting microbial and sediment contaminants	
• Designed and prototyped functional solutions using CAD, woodworking, 3D printing, and rapid prototyping	
• Produced final technical report and presented project poster at an annual engineering showcase	