

Robin Hur

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Education

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

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

Undergraduate Research Assistant, UVA Dept. of Chemical Engineering	Aug 2024 – Nov 2025
• 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	
Research Outputs	
• UVA Biomaterials Research Symposium	Jul 2025
Undergraduate Teacher Assistant, UVA Dept. of Electrical and Computer Engineering	Jan 2026 – Present
• 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	
Mechatronics and Robotics Society, Mechanical Subteam	Aug 2025 – Present
• 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	
Bridge Program Counselor, UVA School of Engineering and Applied Sciences	Jul – Aug 2025
• 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

Potential Energy Propulsion Racer, Project Member	Nov 2025
• 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	
Clean My Water, Project Consultant	Jan – May 2025
• 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	