Daniel V. Rosamond

dvrosamo@buffalo.edu | 917-499-2510
DFAM • Fusion/Solidworks Design • Robotics • Machining & Additive Manufacturing
Brooklyn, NY | linkedin.com/in/dvrosamo/ | Portfolio: dvrosamo.github.io/danielrosamond/

Portfolio

EDUCATION

University at Buffalo, Buffalo, NY — May 2028
Bachelor of Science, Mechanical Engineering
Minor: Robotics (In Progress)

TECHNICAL SKILLS

- CAD & Analysis: Finite Element Analysis, Fusion, SolidWorks, Resin layups (GF/CF/KF), laser cutting
- Robotics & Embedded: Arduino, ESP32, Raspberry Pi, PWM, motor/ESC integration, sensors
- Programming: C/C++, Python

PROFESSIONAL EXPERIENCE

American Society of Mechanical Engineers (ASME), University at Buffalo

Fabrication Lab Manager — January 2025 — Present

- **Managed** student fabrication lab (10 printers, CNC, laser cutter) serving **130+** members
- **Trained and certified** 3D-printer operators to perform standardized preventive maintenance, increasing machine uptime from **~20% to >60%** across ten printers, CNC, and laser cutter

Project Lead — September 2025 — Present

- **Led 50-member team** to design and deliver a fully 3D-printed excavation rover for IAM3D 2026; coordinated requirements, mechanical design, and iterative prototyping
- Engineered tank treads and drivetrain to sustain continuous operation under abrasive sand loading, validating geometry through bench testing and iterative failure analysis
- Structured the rover program into **three 15-person subteams**, each developing a distinct rover architecture, enabling parallel prototyping and design tradeoff evaluation

TECHNICAL PROJECTS

FPV Drone (IAM3D 2025) — Co-lead — September 2024 — April 2025

- Designed a fully 3D-printed FPV payload drone using DFAM, print-in-place, and friction-fit mechanisms, eliminating commercial fasteners and enabling rapid repair.
- Achieved **>2:1** thrust-to-weight ratio, **~16 min** measured flight time, and **~4.9 lb** measured payload capacity, validated through modeling and flight testing
- Engineered a PLA/TPU struct-core elastomer frame that survived **13 impacts** at 40–60 mph without structural failure; placed in **top third** of competition

50lb Combat Robot (NHRL style Competition) — September 2025 — Present

- Leading design and fabrication of a 50lb combat robot in a team of three. Modeled weapon inertia, stresses, and drivetrain loads; engineered a horizontal spinner model operating at **25kJ** within safety parameters

ADDITIONAL INFORMATION

Fire Safety Technician, *Environment, Health, and Safety, University at Buffalo* — August 2025 — Present

- Performed campuswide NFPA/OSHA inspections and preventive maintenance on fire-safety systems; maintained compliance records and asset logs.

Volunteering

- Provided college essay tutoring to students; students admitted into top universities including Vanderbilt, Emory

Languages: English, Polish, Latin (advanced)