Abbas Bharmal

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EDUCATION

Honors Student at University of Maryland, College Park - 3.99 GPA **Expected May 2027**
B.S. Mechanical Engineering
Minor, Robotics and Autonomous Systems

EXPERIENCE

Mechanical and Manufacturing Engineering Intern **06/2025 - 08/2025**
L3Harris Technologies - Chesapeake Sciences Corp.

- Modelled electronics cabinet prototype in support of Electrical Engineers using Solidworks PDM
- Developed 50+ detailed engineering drawings of maritime telemetry components using SolidWorks and Inventor, adhering to ASME Y14.100 standards
- Designed and 3D printed electronic component fixtures for use in manufacturing using Inventor

Terrapin Rocket Team **01/2024 - Present**
Payload subteam for Spaceport America Competition

- Designed and optimized an autonomous flying vehicle with ejection mechanism from team rocket
- Built 20lb capacity hexacopter drone for testing of autonomous vehicle using speedybee flight controller, including design and 3D printing of custom dropping mechanism
- Developed flight software to control the onboard camera, enabling real-time tracking of the rocket's flight
- Contributed to the implementation of flight code, integrating a sensor board, PD controller, and parachute actuation system

Leatherbacks Combat Robotics **09/2024 - 05/2025**
Designing and manufacturing small-scale robot for use in battle-bots competition

- Engineered a 1 lb battle bot utilizing SolidWorks, optimizing for survival rate in head-to-head combat scenarios by reinforcing vulnerable components
- Integrated and wired electronic components for the robot's drive motors, weapon motors, and control systems

Undergraduate Teaching Fellow **09/2024 - 12/2024**
UTF for ENME 202: Computing Fundamentals for Engineers

- Supported 90+ students in mastering C++, MATLAB, and Python by providing guidance on core programming concepts, debugging techniques, and engineering problem-solving strategies.

Hitech Instructor **05/2024 - 08/2024**
Developing and teaching STEM curriculum for library summer programs for grades 6-12

- Developing curriculum for robotics, rockets, engineering, and coding

Eagle Scout, Troop 874 **03/2016 - 08/2023**

TECHNICAL SKILLS

- CAD/FEA: Solidworks, Inventor, Onshape, Fusion
- Programming: C++, Matlab, Python
- Prototyping: 3D printing, Soldering, Hardware-Software Integration
- Workflow: Solidworks PDM, Inventor Vault, Github, VSS