Cooper C. Brown

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Education

University of Maryland, College Park, A. James Clark School of Engineering — Aug 2023 – May 2027
Bachelor of Science in Aerospace Engineering — **GPA: 3.9/4.0**
Academic Honors (Dean's List) & Aerospace Honors Program

Skills

Coding: C++, C, C#, Rust, Python, Matlab, SQL, Linux, Windows, Robot Operating System
CAD, CFD, and FEA: Fusion360, SolidWorks, Kicad, Ansys, FluidX3D
Electronics: Arduino, ESP32, STM32, Raspberry Pi, Soldering & SMD, Mission Planner
Machine Learning (AI): Large Language Models, Cuda & TensorRT, OpenCV, Virtual Reality
Miscellaneous: Tripoli L1 High Power, Part 107 UAV Pilot, Student Pilot, LaTeX, Microsoft Office

Experience

University of Maryland — College Park, MD
UAV Researcher — August 2024 – Present
- Employed CAD, CFD, and computer simulation to design fixed wing sUAS
- Developed novel additive manufacturing and composite construction techniques and built autonomous sUAS
- Designing open-architecture multi-drone tasking and SLAM using Rust, Python, and computer vision

Terrapin Rocket Team — College Park, MD
SpaceShot Avionics Team Lead — Dec 2023 – Present
- Designing and fabricating flight avionics and high altitude GPS for collegiate amateur rocket to space

Payload Engineer — Aug 2023 – Present
- Designed, fabricated, and integrated deployed robotic payload for Spaceport America Cup

Georgia Tech Research Institute — Atlanta, GA
Engineering Research Intern — May 2024 – Aug 2024
- Designed characterization technique for quantum dot based infrared sensors
- Used characterization techniques to classify sensors and compiled results into a conference paper

Computing Research Intern — May 2022 – Aug 2022
- Led team in designing solutions for VLSI chip design and thermal management
- Implemented multiple routing algorithms for VLSI using Python and LP solver

LifeHope Labs — Atlanta, GA
Software Systems Intern — May 2021 – Aug 2021
- Utilized C# and SQL in a laboratory setting to store and serve patient data and test results
- Designed, constructed, and initialized HIPAA-compliant server architecture

Projects

Lightweight Autonomous sUAS — June 2024 – Present
An open, sub-250 gram, extremely cheap autonomous drone with SLAM capabilities — Link

Exoskeletal Composite Reinforcement — May 2024 – Present
Extremely durable and lightweight reinforcement of additive manufactured parts — Link

Aerodynamic Guided Parachute — Aug 2023 – Present
Robotic parachute with aerodynamic guidance deployed from competition rocket — Link

Rotary Guided Parachute — May 2024 – Sep 2024
Quad rotor guided parachute deployed from a heavy lift hexacopter — Link

ENES102 Truss — Apr 2024 – May 2024
The highest performing mechanics 1 final project in UMD history — Link

ENES100 OTV — Aug 2023 – Dec 2023
Competition finalist ENES100 data sensing over-terrain vehicle — Link

Generative AI Interface — Mar 2023 – May 2023
Local LLM chatbot with image generation capabilities — Link