Engineering at Mach Speed: Atlas Space Corps Interns Push the Boundaries of Hypersonic Innovation

This summer, Atlas Space Corps had the privilege of hosting two outstanding engineering interns: Antara Rajgopal and Aprameyo Chakravarty, both of whom brought exceptional curiosity, rigor, and talent to our hypersonics research program.

Working in collaboration with the Virginia Tech Hypersonic Laboratory, Antara and Aprameyo spent their internship immersed in the cutting-edge world of aerospace design, experimental fluid dynamics, and defense research. Their mission? To investigate a new aircraft concept under development for the U.S. Department of Defense—a design intended to thrive under the intense conditions of hypersonic flight.

Innovation in Action: Experiment Meets Computation

Their primary focus was split between two advanced thrusts:

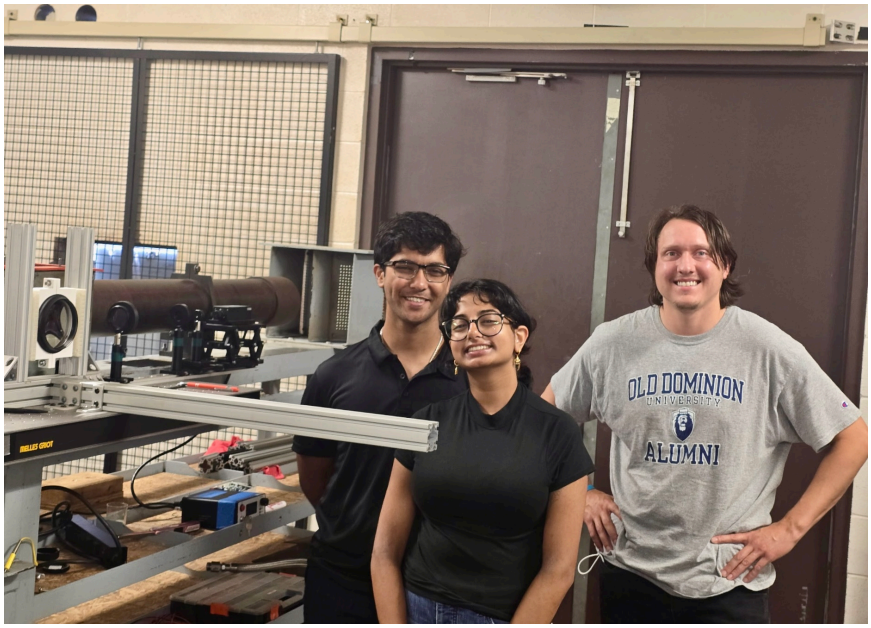
1. Hypersonic Tracking and Visualization: They used high-speed cameras, custom-built instrumentation, and precision laser alignment techniques to track airflow and shockwave behavior at speeds exceeding Mach 5. In the photo above, you'll see them standing beside the wind tunnel setup used for these experiments.

2. Computational Modeling: Alongside physical tests, Antara and Aprameyo performed simulations using CFD (computational fluid dynamics) tools to model temperature, pressure, and lift distributions on the aircraft design. These models not only guided their experimental setups but also helped validate new theoretical predictions on high-speed vehicle control.

Why Startups Matter

Interning at a small business like Atlas Space Corps offers a different kind of opportunity than working at a large corporation. Here, interns don't just assist on the sidelines—they take the lead on real-world challenges. Antara and Aprameyo were integral to team discussions, technical decisions, and even defense contractor briefings.

Small companies mean more access to mentors, faster iteration cycles, and the ability to shape the direction of a project—not just follow it.



Looking Ahead: Defense Tech on the Rise

Their internship comes at a pivotal time. U.S. investment in hypersonic and high-speed aerospace technologies has dramatically increased in the past year, with defense contracts focused on both strategic deterrence and next-gen propulsion systems. Atlas Space Corps is proud to be among the agile startups helping meet this national need.

We're incredibly grateful to Antara and Aprameyo for their contributions, and we can't wait to see where their careers take them next. 🚀