CASSANDRA KAPRAL

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Aerospace Engineering · University of Virginia · Class of 2027

EDUCATION

University of Virginia · School of Engineering and Applied Science · Expected Graduation May 2027
B.S. Aerospace Engineering · **GPA: 3.81** · *Certifications: CSWA (SolidWorks), Level 1 Tripoli Rocketry*

EXPERIENCE

Hi-Test Laboratories · Engineering Intern · Arvonia, VA · May – Aug 2026
- Supported shock testing across 6+ projects using light, medium, heavyweight, and DSSM machines; authored technical procedures and reports per Navy MIL-SPEC for shipboard and submarine equipment.
- Served as technical liaison for 30+ clients (Electric Boat, Raytheon, Wiggins), coordinating scheduling, procedures, and on-site support through each contract phase.
- Trained 2 new employees and identified process improvements that increased operational efficiency during test execution.

Machine Center for Engineering, UVA · Charlottesville, VA
Lab Assistant · Aug 2025 – Present
- Produce technical drawings and 3D models in SolidWorks, AutoCAD, and Rhino; train students and faculty on safe use of mills, lathes, bandsaws, laser cutters, and drill presses.
- Collaborate with shop manager on workflow improvements to increase overall lab efficiency.

Fabrication Fellow · Jun – Aug 2025
- Programmed and operated 3-axis CNC mill (ProtoTRAK) and manual lathes to produce precision components; converted CAD models into finished parts via waterjet and laser cutting.

UVA Applied Math Department · PDE Teaching Assistant · Charlottesville, VA · Aug 2025 – Present
- Manage grading for 140+ students and lead weekly office hours, using Desmos 3D to visualize PDE behavior and strengthen student intuition for solution techniques.

PROJECTS

UVA Rocketry Club · Aerostructures & Flight Performance Team · Fall 2024 – Present
- Led manufacturing of carbon fiber motor mount and airframe fins; designed and analyzed components in SolidWorks using ANSYS CFD/FEA simulations and OpenRocket flight modeling.
- Presented simulation results to 120+ club members; documented findings in AIAA technical report format.

Awards: 9th / 80 at IREC 2026 · 2nd Place Technical Report (195/200) · Best Live Onboard Video

Aerodynamics Lab · Boattail Drag-Reduction Study · Spring 2026
- Designed and 3D-printed boattail test specimens; analyzed drag coefficients and PIV streamline data against CFD simulations and authored an AIAA-format technical report.

LEADERSHIP

UVA Climbing Club · Co-President & Social Chair · Fall 2023 – Present
- Oversee operations for 100+ members including trip planning, scheduling, policy, and logistics. Plan the annual Spring Formal end-to-end, managing budget and vendor correspondence.

SKILLS

Software & Simulation: SolidWorks, ANSYS Fluent (CFD), ANSYS Mechanical (FEA), OpenRocket, MATLAB, AutoCAD, Rhino
Fabrication: CNC Mill (ProtoTRAK), Manual Lathes, 3D Printing, Waterjet Cutting, Laser Cutting, Bandsaw