

Professional Skills Reflection

Introduction

I am completing my Bachelor of Science in General Studies at Old Dominion University, building on a foundation in computer engineering and computer science. My professional interests center on uncrewed aerial systems, flight dynamics testing, and technical documentation within aerospace and defense environments. My ePortfolio highlights three core skill areas: Aerospace & Flight Systems, Hardware & Systems, and Technical Documentation. Together, these areas reflect hands-on technical work across research labs, industry, and community organizations, along with the ability to translate that work into clear documentation and communication that cross-functional teams and decision-makers can act on.

Skill 1: Aerospace & Flight Systems

Skill Description: Aerospace & Flight Systems covers the operational evaluation, testing, and flight readiness of uncrewed aerial vehicles and flight dynamic instrumentation. In defense and research environments, verifying sensor accuracy, understanding flight regulations, and contributing to full-scale flight projects are critical to mission success and flight safety.

Evidence: At Virginia Tech's Nonlinear Systems Laboratory, I conducted Air Data Unit (ADU) dynamic response testing to evaluate sensor reliability for angle-of-attack and sideslip measurements, and separately worked on Quadditch, a drone-based research platform, upgrading the onboard flight controller and analyzing ROS code and Unreal Engine Blueprints to help the team virtualize multi-drone flight without collisions. I also completed Virginia Tech's flight proficiency requirements and earned my FAA Part 107 Remote Pilot certificate, pairing hands-on testing with the regulatory credential to operate uncrewed aircraft. As Operational Manager

and Payload Team Leader for Virginia State University's inaugural NASA Student Launch Initiative team, I helped lead over 30 students and 5 faculty and industry advisors through NASA's proposal milestones, working across logistics and technical design.

Professional Relevance: Validating flight hardware and sensor reliability, holding the operational credentials to fly, and leading a team through a nationally competitive proposal process together show that I can contribute to aerospace projects at the technical, regulatory, and organizational level.

Skill 2: Hardware & Systems

Skill Description: Hardware & Systems focuses on bridging software, physical hardware, and enterprise IT infrastructure. Diagnosing workflow blockages and maintaining physical equipment ensures operational readiness across enterprise, laboratory, and public-sector settings.

Evidence: At Northrop Grumman's Request Management Office and Performance Intelligence Team, I used ServiceNow to investigate and resolve workflow bottlenecks in enterprise compute asset requests, coordinating with engineering teams to validate solutions. As a Lab Assistant at Virginia State University, I taught Machines Laboratory courses, training students in Siemens NX modeling and the operation of industrial lathes and milling machines. As a Department of Technology Student Intern for Albemarle County Public Schools, I worked on a team repairing computers, monitors, and smart boards, imaging and reimaging devices, and loading equipment across every school in the county, including troubleshooting calls dispatched during summer school.

Professional Relevance: Streamlining infrastructure pipelines, teaching hands-on equipment operation, and performing direct hardware repair across a large public institution together

demonstrate that I can support both the digital and physical sides of a system, and that I can do so reliably at scale.

Skill 3: Technical Documentation

Skill Description: Technical Documentation involves translating complex engineering, software, and research concepts into clear, structured, and standardized reference materials. Precise technical writing ensures repeatability, supports regulatory compliance, and enables effective knowledge sharing across audiences.

Evidence: At Virginia Tech's Nonlinear Systems Laboratory, I designed and typeset a standardized performance capability template in LaTeX, giving researchers a consistent framework to quickly match uncrewed aerial assets to project requirements. At Northrop Grumman, I authored internal knowledge base articles and procedural workflow documentation for the Request Management Office and Performance Intelligence Team, written for cross-functional and technical audiences. As an intern with the Library of Virginia's Commonwealth of Virginia 1971 Constitution Project, I researched, authored, and designed the education and education-timeline sections of a public digital exhibit.

Professional Relevance: Clear documentation standardizes procedures, reduces onboarding time, supports compliance, and makes specialized research and history accessible to audiences outside the original technical or academic context.

Describing My Skills to an Employer or Supervisor

Aerospace & Flight Systems: “I bring hands-on experience in flight dynamics testing and uncrewed aerial system operations. At Virginia Tech's Nonlinear Systems Laboratory, I conducted dynamic response testing on Air Data Units to verify sensor accuracy, and I held an

FAA Part 107 Remote Pilot certificate. I also helped lead my university's first NASA Student Launch team through the full proposal and milestone process, so I can speak to both the technical testing side and the project-management side of aerospace work.”

Hardware & Systems: “I specialize in environments where software, enterprise networks, and physical hardware intersect. At Northrop Grumman, I use ServiceNow to isolate workflow bottlenecks and restore service delivery timelines. Earlier in my career, I did hands-on equipment repair and imaging across an entire public school district, and I've since taught CAD modeling and industrial machining at the college level, so I'm comfortable working with systems at every level, from a single machine to an enterprise pipeline.”

Technical Documentation: “I transform complex engineering and research data into clear, standardized documentation. At Virginia Tech, I built a LaTeX performance capability template that let researchers match drone platforms to project requirements in minutes instead of hours. I've also written internal knowledge base guides at Northrop Grumman and authored a public-facing research exhibit for the Library of Virginia, so I know how to adjust the same underlying skill for a technical team versus a general audience.”

Strongest Skill Reflection

My strongest skill is Aerospace & Flight Systems. It represents the primary focus of my technical background, combining my foundational training in computer engineering with hands-on flight testing, sensor analysis, and leadership on a full-scale aerospace project.

I developed this skill through direct testing and flight training at Virginia Tech's Nonlinear Systems Laboratory. The turning point was conducting dynamic response testing on Air Data Units, which required evaluating physical aerodynamic behavior alongside sensor output data,

and thinking carefully about where a measurement could be trusted. Earning my FAA Part 107 Remote Pilot certificate solidified my operational knowledge of airspace regulations and flight safety. Leading VSU's inaugural NASA Student Launch team as Operational Manager and Payload Team Leader then pushed that foundation further, since an inaugural team meant nearly everyone in leadership, myself included, was learning the requirements of a NASA proposal in real time, and I had to understand the technical side well enough to lead people who were closer to it day to day.

In my future career, I plan to apply this skill to the flight testing, integration, and evaluation of aerial platforms and defense systems, building on both the technical testing experience and the project leadership experience I've gained.

Applying My Skills Going Forward

After graduation, I am joining Northrop Grumman's three-year Rotational Pathways Program, where I am currently networking toward future rotations in aerospace and mechanical engineering. I also plan to pursue a master's degree in aerospace or mechanical engineering, since an engineering degree is required for the technical roles I want to grow into long-term. Alongside that, I will renew my FAA Part 107 Remote Pilot certification and continue building toward advanced flight test instrumentation work as I move into a full-time aerospace role.