Jasmine R. Narine

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Objective
Seeking a Graduate Education, specifically a Master's Degree, in Aerospace Engineering with a special interest in the research conducted within the fields of rocket/spacecraft propulsion systems, fluid dynamics, hypersonic technology, planetary reentry, and/or novel air-breathing propulsion

Education
Rensselaer Polytechnic Institute, Troy, New York
- Bachelor of Science Aerospace Engineering   Expected May 2023
- GPA 3.81/4.0

Skills
Siemens NX CAD; Intermediate   Numerical Programming in Python; Intermediate
Programming in MATLAB; Intermediate

Relevant Coursework
Propulsion Systems (Current Fall 2022)   Space Vehicle Design (Current Fall 2022)
Aeroelasticity and Structural Vibrations (Current Fall 2022)   Spaceflight Mechanics
Aerospace Structures & Materials   Aerodynamics
Modeling and Control of Dynamic Systems   Control Systems Laboratory
Numerical Methods and Programming for Engineers   Introduction to Engineering Design
Introduction to Differential Equations   Engineering Dynamics

Honors & Awards
RPI Eleanor Alexander Stribling Female Undergraduate Student Research Award   2022
- Honor awarded to recognize and support female students engaged in Aeronautical Engineering research

RPI Dean's Honor List   2019 – 2022
- Honor awarded to recognize undergraduate students who attain a grade point average of 3.50 or better

Rensselaer Leadership Award   2019
- Scholarship awarded in recognition of an outstanding record of academic and personal achievements

Projects
LUminosity Covering Integrated Focuser for Exoplanet Research (LUCIFER)   September 2022 - Present
- Team leader of the capstone design team responsible for designing a spacecraft capable of deploying a Star Shade satellite, to work in coordination with a space-based telescope, to identify exoplanets with an aptitude to sustain life
- Directed the team to determine individual strengths, mission priorities, and the mission architecture
- Performed research to determine potential designs for the above subsystems in accordance with mission requirements
- Lead engineer of the spacecraft propulsion system and attitude determination and control system
- Currently analyzing and designing for each respective subsystem's requirements in accordance with the spacecraft mission and team priorities

Research at the Center for Physics and Flow Control (CeFPaC) Lab at RPI   January 2022 – Present
- Research assistant on a joint project with the University of Texas at Austin focusing on the behavior of hairpin vortices
  - Actively assisting in the calibration of wind tunnel models/components and low speed wind tunnel experimentation utilizing Particle Image Velocimetry (PIV)

- Designer of active flow control wind tunnel components in Siemens NX CAD for fabrication and aid in wind tunnel experimentation
- Constructed a large flat plate assembly required to support the model for wind tunnel experimentation

Robotic Medical Transport Device   **January 2021 – May 2021**
- Leader of the Introduction to Engineering Design (IED) design team responsible for designing a robotic device capable of carrying temperature sensitive medical equipment and medicine
- Lead engineer and co-designer of the subsystem responsible for creating medical supply compartments that implement a working refrigeration/heat pump cycle
- Determined the component technical specifications, required power input, and time to heat/cool system for target temperature ranges

Rensselaer Rocket Society   **September 2019 – May 2021**
- Co-designer of a 6.5 ft model rocket equipped with a dual deploy recovery system that successfully launched to an altitude of 1100 ft
  - Managed the construction of the avionics compartment and compiled research on various rocket motors
  - Performed black powder ejection charge calculations to determine the proper amount required for each section of the rocket to recover properly during flight

Algae-Enhanced Filtration Module for Carbonic Acid   **September 2018 – August 2019**
- Finalist in the Environmental Engineering Category at the 2019 Intel International Science and Engineering Fair
- Engineered a sustainable filtration device that uses bioremediation techniques to deacidify bodies of water
- Performed intensive background research and experimental analysis of filtration techniques
  - Constructed a simulated lake environment to conduct prototype testing. The filter demonstrated the capability to clean eight gallons of water in seven days with a rise in pH of 0.4

Leadership

First Year Resident Assistant   **September 2021 – December 2021**
- Served as a live-in resource to first year students for personal, academic, and social conflict, and to facilitate the transition from high school to college

RPI Women Mentoring Program   **August 2020 – May 2021**
- Served as a mentor to a group of first-year women in order to assist them in their transition to college and provide them support in achieving their goals
- Facilitated bi-weekly discussions regarding how to develop the set of skills, knowledge, and healthy habits that will allow them to achieve their goals and succeed at RPI and beyond
- Created and executed resume building and career professional development activities

Work Experience

Space Launch System (SLS) Test Engineer Intern — The Boeing Company   **May 2022 – August 2022**
- Acted as Test Engineer for the SLS in-process testing team
    - Reviewed the SLS propulsion system design description and test team procedures/processes
    - Assisted with the systems testing of the SLS Core Stage 2 (CS2) engine section and intertank
    - Shadowed the test set-up of the Liquid Hydrogen (LH2) CS3 Welds (Proof) Testing
- Collaborated with a team of engineers to map changes of the CS2 test configurations to that of future CS3 test procedures
- Lead designer of a single leg pneumatic test panel for the application of high-pressure tests

Aerodynamic Test Engineer Intern — The Boeing Company   **June 2021 – August 2021**
- Acted as Test Engineer and Data Quality Engineer for the Polysonic Wind Tunnel (PSWT, Mach 0.45-5.3) Operations
    - Evaluated measured tunnel conditions to ensure quality standards are met
    - Checked trends in model pressures against known aerodynamic behavior to monitor the accuracy and consistency of the wind tunnel data
    - Reviewed test plans, test criteria, and the process for model installation to ensure a successful wind tunnel test
- Calibrated strain-gaged wind tunnel model hardware for the measurement of component loads
- Programmed Reynolds Number and Dynamic Pressure operational envelopes of the PSWT in Python and MATLAB
- Worked directly on a weapons and air vehicle program effectively reviewing the CFD simulation and model changes

Student Orientation Coordinator — Office of the First-Year Experience   **June 2020 – August 2020**
- Managed the logistics of program planning across the first-year experience office for RPI Student Orientation and Navigating Rensselaer and Beyond
- Supervised orientation programs and activities and served as a resource for all inquiries and questions

Inventory and Online Operations Associate — Euroimports LLC   **June 2015 – June 2020**
- Assisted in the rebuilding of BMW engine heads for resale
    - Performed dimensional inspection of BMW engines to assess rebuilding feasibility
    - Lapped cylinder valves to engine head and assembled BMW engines
- Created bulk listings for the online store and conducted automotive parts referencing
- Managed new and previous inventory of automotive parts
- Assisted in the management, packaging, and shipment of automotive inventory