Elizabeth Matthews

East Providence, RI | (304)-268-4546 | eamatthews99@gmail.com

Experience

Research Engineer | Arctura, Inc   **Feb. 2022 - Present**

- *Helped to develop and validate a lightning protection coating for wind turbines which reached the market in 2024.*
  - Supported validation tests in a high voltage test facility.
  - Planned out pilot studies on wind farms.
  - Designed and set up lightning triggered cameras to capture strikes hitting coated turbines.
- *Developed and tested methods for active lift control for wind turbine blades using plasma actuators.*
  - Tested small scale actuators in an office lab using high voltage systems and monitoring devices including pressure transducers and schlieren.
  - Built a small scale wind tunnel to visualize actuators with flow.
  - Built scaled down blade sections to test in larger commercial wind tunnels.
  - Wrote and updated Python codes to record, analyze, and present data.
- *Researches and develops ways to fix nitrogen using plasma in a lab environment.*
  - Runs tests to measure efficiency of the nitrogen fixation process using a spectrometer and NOx analyzer. Tests involve high voltage systems and flow systems (compressed cylinders, flow controllers).
  - Writes technical reports and proposals.

Engineering Intern | Arctura, Inc   **March 2021 - Dec. 2021**

- Set up lab equipment and testing systems. Ran experiments with high voltage and plasma to induce velocity. Analyzed data taken.

Education

B.S. in Aerospace Engineering | B.S. in Mechanical Engineering   **Dec. 2021**
West Virginia University Honors College, Morgantown, WV
Benjamin Statler College of Engineering and Mineral Resources

- Final GPA: 3.96

Activities and Awards

- NSF GRFP 2025 Honorable Mention
- Studied abroad at Kapito Sprachschule in Münster, Germany
- German National Honor Society
- Society of Women Engineers
- Benjamin A. Gilman International Scholarship
- President's and Dean's List
- Presented at AIAA 2022 Region I Student Conference

Skills

Solidworks, Python, Matlab, XFLR5, Fusion 360, LabVIEW, 3D printing, technical writing, troubleshooting, Microsoft, Intermediate German Language Skill