Tristan Schoeman

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Summary

Experienced Mechanical Engineer with expertise in structural dynamics, vibration analysis, and aeroelastic modeling. Skilled in MATLAB/Python-based simulations, stability analysis, and cross-functional engineering collaboration. Proven ability to deliver structural design insights for complex aerospace and energy systems.

Skills & Abilities

- MATLAB (3000 hours), Python (1000 hours), Simulink
- Engineering Leadership & Certified Project Manager, IPMA C
- Structural Dynamics, Vibration & Modal Analysis
- Aeroelastic Modeling, Control Systems
- Statistical Data Analysis
- SolidWorks CAD (CSWA Certified)

Education

University of Colorado Boulder

MS Mechanical Engineering: May 2022, GPA – 4.00 **BS Mechanical Engineering:** May 2021, GPA – 3.96

Work Experience

Wind Turbine Loads and Controls Engineer **August 2024 – Present, May 2020 – May 2022**

Siemens Energy Boulder, CO

- Responsible engineer for new wind turbine blade designs working cross functionally with structures and aerodynamic teams. Conduct loads and stability analyses using MATLAB and aeroelastic tools to guide design changes while delivering results for critical program milestones.
- Design engineer for novel turbine damping system against stall induced vibrations; authored test plan and developed a representative model using MATLAB and aeroelastic toolsets.
- Developed a statistical method in MATLAB and Python to identify blade bearing damage.
- Lead numerous tool development efforts to streamline codebase and product design processes.

Wind Turbine Major Projects Project Manager **December 2023 – August 2024**

Siemens Gamesa Renewable Energy Orlando, FL

- Directed 20 concurrent major component exchanges with average budgets over $300,000 using SAP.
- Lead international cross functional teams of 10+ personnel in operations, supply chain and engineering ensuring on-time delivery and technical compliance.
- Communicated project status with stakeholders and customers; improved efficiency by rapidly resolving engineering and operational issues.

Leadership Development Program Engineer **May 2022 – December 2023**

Siemens Gamesa Renewable Energy Orlando, FL

- Rotated through engineering and commercial groups including operations, B2B sales, and strategy.
- Led key projects focused on reducing subcontractor costs and increasing technician competency.
- Created automation tools utilizing AI to streamline business operations and reporting to management.

Projects

Project Manager – Increasing Robustness of Emerson Flow Meters **August 2020 – May 2021**

University of Colorado Boulder – Senior Design/Capstone Boulder, CO

Formula SAE – Chassis Co-Lead **August 2018 – December 2019**

University of Colorado Boulder Boulder, CO