Charlie Blake

Structural & Mechanical Systems Engineering Intern

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SUMMARY

Graduate student specializing in mechanical engineering, focusing on structural analysis and thermofluids. Enthusiastic about space exploration and dedicated to driving innovative engineering solutions within the aerospace sector. Possess hands-on experience through academic projects and internships that demonstrate collaboration and effective communication of complex concepts. Proven ability to work in fast-paced environments, bringing both technical skills and leadership qualities to deliver impactful results. Ready to contribute to high-performance teams and engage deeply in meaningful project work at Blue Origin Innovations.

EDUCATION

Master's Degree in Mechanical Engineering

University of Texas at Austin GPA: 3.8 2027 Austin, TX

Coursework: *Thermodynamics, Fluid Mechanics, Structural Analysis, Propulsion Systems*

TECHNICAL SKILLS

- **Engineering Software:** MATLAB, ANSYS, COMSOL
- **Data Analysis Tools:** Python, R, Excel
- **Propulsion Systems:** Jet Engines, Rockets, Turbines
- **Technical Writing Software:** LaTeX, Microsoft Word, Google Docs
- **Simulation Tools:** ANSYS Fluent, MATLAB Simulink, SolidWorks Flow Simulation
- **Project Management Tools:** Trello, Asana, JIRA
- **Presentation Tools:** Microsoft PowerPoint, Prezi, Google Slides
- **Statistical Software:** SPSS, SAS, Minitab
- **Modeling Software:** AutoCAD, CATIA, Rhino
- **Thermodynamic Testing Equipment:** Data Acquisition Systems, Sensors, Test Rig Apparatus

SKILLS

- Data Processing
- Thermofluids
- Combustion Analysis
- CAD Software
- SolidWorks
- Technical Writing
- Public Speaking

EXPERIENCE

Mechanical Engineering Intern

University Project January 2026 - Present Remote

Focused on design and analysis of propulsion systems within a capstone project supported by effective team collaboration and usage of CAD and simulation tools for detailed analysis.

- Collaborated on design and analysis of propulsion systems using state-of-the-art CAD software and simulation tools.
- Conducted experiments assessing thermofluid dynamics, leading to design parameter refinement for enhanced system performance.
- Produced comprehensive reports documenting findings, significantly improving technical communication with stakeholders.
- Engaged actively in peer-review sessions to provide constructive feedback, fostering a strong collaborative learning environment.
- Contributing extensively to all phases of prototype development, from initial conceptualization through successful testing.
- Delivered project presentations showcasing results to faculty and industry professionals, earning commendations for clarity and depth.

Research Assistant

Academic Research September 2025 - December 2025 Houston, TX

Supported research initiatives in thermodynamics and combustion, leveraging analytical skills to aid data progression and academic acknowledgment.

- Assisted in researching thermodynamics and combustion processes, including data collection and key finding analysis.
- Maintained and developed experimental setups for controlled testing of various combustion models.
- Teamed up with peers to publish research findings, significantly enhancing visibility in reputable journals.
- Applied statistical software proficiently to interpret data trends and improve existing computational models.
- Presented research outcomes effectively at a national conference, demonstrating superior public speaking capabilities.
- Mentored undergraduates in laboratory techniques and data-analysis methodologies, promoting academic support.

Capstone Project Developer

Course Project January 2025 - May 2025 Remote

Led a dedicated team focused on designing structural components for aerospace applications, utilizing advanced simulation tools and strong documentation.

- Directed a team tasked with structural component design for simulated aerospace application, prioritizing safety and efficiency.
- Utilized Finite Element Analysis (FEA) software rigorously to evaluate the structural integrity under various loading scenarios.
- Crafted extensive documentation outlining design decisions and analytical strategies for future reference within projects.
- Collaborated closely with faculty coaches to ensure alignment of project milestones with real-world industry expectations.
- Hosted regular team meetings for progress tracking and challenge resolution, cultivating accountability and teamwork.
- Showcased final presentations before a panel of industry experts, achieving praise for innovative approach to design.

LEADERSHIP & AWARDS

- Dean's List, University of Texas at Austin (2025, 2026)
- First Place, Engineering Design Challenge (2025)

CERTIFICATIONS

- Certified in SolidWorks 2026
- Data Analysis and Visualization with Python 2026

PROFESSIONAL AFFILIATIONS

- Member, Aerospace Engineering Society, University of Texas at Austin
- Volunteer, STEM Outreach Program, promoting engineering careers to high school students

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST