Charlie Blake

Structural & Mechanical Systems Engineering Intern

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STRENGTHS

Technical Communication
Successfully communicated complex technical findings through comprehensive reports, gaining executive confidence and stakeholder approval.

Team Collaboration
Worked seamlessly with peers across multiple projects, leading to stronger outcomes and increased project engagement.

Leadership
Steered team objectives and offered mentorship to younger colleagues, leading to improved performance and unity in efforts.

Analytical Problem Solving
Applied critical thinking to solve design issues, resulting in optimized engineering outcomes beneficial to overall project success.

Adaptability
Demonstrated flexibility in dynamic environments, rapidly adjusting strategies while maintaining focus on essential goals.

SKILLS

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

LANGUAGES

English — Native

Spanish — Intermediate

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

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.

MY CAREER

- Mechanical Engineering Intern at University Project (6 Months)
- Research Assistant at Academic Research (3 Months)
- Capstone Project Developer at Course Project (4 Months)

- 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

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST