Christian Pack

Active Interim Security Clearance: Secret

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OBJECTIVE

Motivated aerospace student with a strong foundation in design, manufacturing methods, and analysis. Seeking an entry-level role to apply expertise in CAD, FEA, CFD, and manufacturing to develop innovative aerospace solutions.

SKILLS

- **Design & Analysis** | SolidWorks/EPDM, PTC Creo/Windchill, Fusion, ANSYS Fluent, Simcenter FEMAP
- **Manufacturing** | CNC Milling, VARTM, Compression Molding, Additive, Mill, Lathe, GD&T (ASME Y14.5)
- **Programming** | MATLAB, C++, LaTeX, Arduino

EDUCATION

University of Tennessee Knoxville, *Tickle College of Engineering* **Graduation: May 2025**

Bachelor of Science in Aerospace Engineering, Minor in Mechanical Engineering GPA: 3.92/4.0

- Tau Beta Pi Engineering Honor Society, Honors Senior Design

WORK EXPERIENCE

Leidos-Dynetics (Defense Systems), *Design and Analysis Engineering Intern* **05/2024-08/2024**

- Designed deployable work platforms for Sentinel A3/A4 Radar access, ensuring DFM and structural integrity.
- Performed FEA simulations in FEMAP to validate material strength, load capacity, and design compliance.
- Developed 30+ detailed part and assembly drawings, optimizing manufacturability and streamlining production.

Fibers and Composites Manufacturing Facility, *Hypersonics Undergraduate Research Assistant* **02/2023-05/2024**

- Manufactured and characterized C/C composites for hypersonic applications using VARTM techniques.
- Conducted destructive/non-destructive testing (NDT), and microscopy to assess microstructure and performance.
- Improved and streamlined composite fabrication processes, enhancing throughput and material consistency.

JLG Industries Inc. (Telehandlers), *Manufacturing Engineering Intern* **05/2023-08/2023**

- Designed and fabricated a steel transport fixture, reducing boom arm handling costs by $150,000 annually.
- Modeled 3D components for process optimization, increasing daily production by one unit ($92,000/day impact)
- Applied Six Sigma to justify equipment, machinery, and layout upgrades, improving efficiency and wastage.

Tennessee Valley Authority, *AutoCAD Student Drafter* **12/2020-05/2021**

- Developed and revised 2D drawings in AutoCAD, ensuring compliance with specifications and deadlines.

RELEVANT PROJECTS

3D Printed Heat Pipe for Hypersonic Applications, Lockheed Martin (Senior Design Project) **Fall/Spring 2024**

- Designed a 3D-printed passive cooling thermal protection system (TPS) to mitigate high-speed thermal effects.
- Optimized wicking and additive manufacturing (AM) methods, balancing performance and manufacturability.
- Conducted multiphase CFD analysis in ANSYS Fluent, evaluating heat transfer and fluid flow characteristics.
- Led make/buy analyses to assess manufacturability and 3D print feasibility for heat pipe production.

Hypersonic Pizza Delivery Missile (HPM), Compressible Flow **Spring 2024**

- Developed a hypersonic wedge and performed propulsion analysis for desired rocket motor and thrust conditions.
- Optimized aerodynamic stability assessments, optimizing wedge geometry for a maximum flight range at 80kft.

Automatic Satellite Tracker, Circuits and Electromechanical Components **Spring 2023**

- Integrated SatPC32 software with a custom-built mechanical rotor to automate real-time satellite tracking.
- Programmed C++ to display elevation, azimuth, and object identification on an LCD screen.

LEADERSHIP AND ACTIVITIES

American Institute of Aeronautics and Astronautics, *Treasurer* **05/2023-Present**

- Led regional industry and conference trips, securing funding and logistics for student participation.
- Managed financial transactions, sponsorships, and budgeting strategies to ensure chapter growth.

Tau Beta Pi Engineering Honor Society, *Industry Chair* **05/2023-Present**

- Established industry partnerships, organizing sponsorship/outreach opportunities for professional development.