Ashton Baker

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Education

Iowa State University, Ames, IA
Bachelor of Science in Mechanical Engineering *December 2024*

Employment Experience

Honeywell Aerospace Minneapolis, MN
Advanced Manufacturing Engineer *Jan 2025 to Present*

- Designing new tooling and product assembly process with expected annual savings of $45 million
- Developing polishing removal rate and surface finish model for more accurate change predictions

Secor Research Lab Ames, IA
Undergraduate Research Assistant *May 2024 to Dec 2024*

- Prototyped aerosol jet printing atomizers to increase heat transfer and reduce flow losses by 20%
- Developed optical scattering measurement equipment using 4-axis CNC milling and turning

Boyd Lab - Student Manufacturing Lab Ames, IA
Laboratory Technician *May 2023 to Dec 2024*

- Utilized manual milling, CNC programming, and welding to fabricate components and repair tools
- Consulted on research projects for manufacturability and usability, applying concepts from GD&T

Wellman Dynamics Creston, IA
Product Engineering Co-Op *Jan 2022 to Jun 2022*

- Led pattern redesign resulting in 15% reduction of overall product defects by minimizing turbulence
- Improved simulation accuracy by collecting data from live pours and adjusting model constants

Project Experience

Cyclone Rocketry

Propulsion Team Lead *Jul 2023 to Jul 2024*

- Defined requirements for the design and analysis of rocket motor hardware and retention systems
- Utilized GD&T and ANSI tolerating standards to ensure consistent motor quality and easy assembly

Honeywell FM&T RASR Team Member *Sept 2024 to Dec 2024*

- Designed and fabricated a lightweight, interchangeable motor retention system to accommodate 4 COTS rocket motors, using FEA to guide mass reduction while minimizing component stress

General Member *Jul 2023 to Dec 2024*

- Achieved L2 Tripoli certification for successful launch and recovery of self-designed and built rocket
- Made composite airframe components via wet fiber layup utilizing 3D printed mold techniques
- Created and programmed a flight computer using sensor breakout boards and a custom-made PCB

Jet Engine Team

Team Founder *Jan 2024 to Dec 2024*

- Designed a metal 3D printed impeller to reduce weight by 40% and withstand 50,000 RPM
- Converted a manual valve to an electronically actuated system using a servo motor, 3D printed gear train, and custom housing to enable remote control of fuel delivery

Skills

Solidworks, Structural Analysis, FEA, Prototyping, CNC, MasterCAM, Additive Manufacturing, GD&T, Python