Garrett K. Hall

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PROFESSIONAL SUMMARY

Product Development Engineer with an M.S. in Mechanical Engineering from the University of Texas at Austin, specializing in end-to-end hardware development and systems integration. I transform ambiguous user and market needs into structured requirements, system architectures, and validated prototypes for complex hardware and integrated products. My work has reduced critical failure rates by 75%, accelerated development cycles from 6-18 months to 60 days, and delivered concepts with $55M+ revenue potential from early definition through development readiness.

Tools & Technologies: SolidWorks, FEA, GD&T, MATLAB, Python, SQL, Simulink, LabVIEW

EDUCATION

UNIVERSITY OF TEXAS AT AUSTIN – Austin, TX
Master of Science in Mechanical Engineering
- Focus in Product Design and Manufacturing
- GPA: 3.84

BAYLOR UNIVERSITY – Waco, TX
Bachelor of Science in Mechanical Engineering
- Minor: Mathematics

EXPERIENCE

EUREKA! INVENTING – Houston, TX (Remote) ***August 2025 – Present***
Strategy & Design Engineer Intern
- Designing integrated system-level solutions for a next-generation outpatient clinic and a novel educational model, transforming high-level stakeholder vision into structured concepts
- Conducting empathy-driven research to map workflows, identify bottlenecks, and define user-centered functional requirements.
- Rapidly iterated 7 concept models, converging on 3 user- validated offerings; creating a repeatable framework for future product development.

UT COCKRELL SCHOOL OF ENGINEERING – Austin, TX ***January 2024 – May 2024***
Mechanical Engineering Research Assistant
- Led forensic failure analysis of a legacy structural turnbuckle with no available specifications, independently developing hypotheses and test plans under incomplete data and high uncertainty.
- Conducted fracture surface analysis using SEM and EDS, systematically evaluating stress corrosion, tensile overload, manufacturing defects, and fatigue mechanisms.
- Identified fatigue-driven crack propagation over 18 years and provided recommendations for material, design, and maintenance to prevent future failures.

UT DELL MEDICAL SCHOOL/MCCOMBS SCHOOL OF BUSINESS – Austin, TX ***July 2023 – December 2023***
Product Development Research Assistant
- Collaborated with surgeons and clinicians to address a critical neonatal airway management issue affecting ~40% of newborns.
- Reduced tube dislodgement by 75% by designing and validating a neonatal endotracheal tube mechanical system through iterative mechanical design, benchtop reliability testing, and FMEA-driven risk mitigation.
- Bridged engineering, clinical, and business constraints through competitive analysis, early IP strategy, and manufacturability considerations to translate concepts into development-ready medical device solutions.

CHAMPIONX – Houston, TX ***May 2021 – August 2021***
Product Development Intern
- Led a 60-day innovation sprint, translating regulatory methane-emission challenges into development-ready concepts.
- Decomposed system challenges into functional requirements and constraints, generating 7 concepts and advancing 4 to technical development under 24-hour decision cycles.
- Delivered concepts with $55M+ projected revenue potential, compressing a typical 6–18 month development timeline into 60 days and securing executive approval.

LEADERSHIP & CERTIFICATIONS

- Eagle Scout: Led the design and installation of a permanent orienteering course at a Texas State Park; project led to a freelance contract with Pappas Restaurants to develop a similar course for their corporate retreat (2019).
- Earned a Blue Belt Certification in Innovation Engineering, a structured problem-solving and systems engineering methodology.