Ethan H. Thibaudeau

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SUMMARY

Resourceful engineer driven to solve complex, multidisciplinary engineering problems in a methodical and organized fashion. 12yrs. experience in analysis, design, programming, prototyping, and testing of mechanical, electrical, and electromagnetic devices. Experience leading products from concept through to production. Genuine curiosity in STEM fields, including professional and hobbyist environments.

EXPERIENCE

ElectroCraft, Design Engineer | *Stratham, NH* | *2016 - Current*

- Managed new product development projects from concept to commercialization for new brushless DC motor products, meeting design specifications, project timelines, quality standards, and budgetary constraints.
- Optimized motor designs using electromagnetic 2D/3D FEA and 3D CAD, ensuring adherence to sales & customer requirements for performance, life, cost, and aesthetics.
- Sourced & inspected components, assembled, and tested prototype motors, gearboxes, and encoders to ensure prototypes met performance specifications.
- Led an initiative to improve CAD & CAM workflows with VB automation of manual tasks, resulting in improved efficiency and reduced error rates.
- Created easy to use Excel-based simulation tools that predicted application specific motion profiles to assist the sales team, using loosely-coupled simulations to account for varying motor torque.
- Developed design tools to analyze linear & radial tolerance stack-up, part fits, fastener torque, and rotor balance which led to standardized, organized, and documented product development process.
- Designed and built a showcase robot highlighting gear-motors & drives, resulting in increased engagement with potential customers. Integrated motor drives, gear-motors, and implemented Arduino microcontrollers for wireless communication, which calculated kinematics for mechanum wheel motion.
- Created CAM programs for CNC mill & lathe to create prototype parts in-house, reducing lead time & part cost. Developed customized setup sheets automated with Javascript & VBA for CNC a mill & lathe, enhancing operator clarity and safety.

Goss International, Design Engineer | *Durham, NH* | *2013 - 2016*

- Researched, analyzed, prototyped, and tested innovative products for industrial printing presses while collaborating with a cross-functional team.
- Traveled to customer sites, utilizing problem-solving skills to collect, analyze, and display performance data that resulted in enhanced troubleshooting and reporting of press performance issues and improved customer satisfaction.

SKILLS

- **Testing & Data Analysis:** Arduino, Data Visualization, Experimental design, LabView, MatLab, Python, VB(A)
- **Prototyping:** 3D Printing, Assembly, CNC Programming & Machining, Hand & SMT Soldering, Hand Tools, Manual Machining & Fabrication, Mechanical & Electrical Inspection, Part Sourcing, PCB layout (DipTrace)
- **2D/3D Design**: Design For Manufacturability, Product Design, GD&T, Tolerance Analysis, Technical Writing & Schematics, Inventor, PTC Pro/Engineer, Solidworks
- **Simulation & Optimization**: BLDC motor design (MotorSolve, Magnet), Mechanical & Thermal FEA (Abaqus, Inventor, Solidworks, Fusion360)

EDUCATION

M.S., Mechanical Engineering
University of New Hampshire
Aug 2013 | *GPA: 3.89*

- Analyzed, designed, constructed, and tested an electromagnetic actuator for magnetic pulse forming, which led to multiple publications.
- Performed electromagnetic analysis in Abaqus FEA to model the magnetic pulse forming process, constructed and assembled components, and performed data acquisition and analysis in LabView and MatLab.

B.S., Mechanical Engineering
University of New Hampshire
May 2011 | *GPA: 3.49*

PROJECTS

PUBLICATIONS