Parth Bhatt

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Summary

Energetic mechanical design engineer with experience in Injection molding, die casting, sheet metal, product architecture, mechanism design, skeleton/master modeling workflow, electronics, programming, electro mechanical systems, and the product development process.

Education

MS | NORTHWESTERN UNIVERSITY | MAJOR: ENGINEERING DESIGN AND INNOVATION | DECEMBER 2016 | GPA 3.875/4

BS | VELLORE INSTITUTE OF TECHNOLOGY | MAJOR: MECHANICAL ENGINEERING| JUNE 2014 | GPA 8/10

Experience

MECHANICAL ENGINEER | BEYOND DESIGN INC   *August 2017-Present, Chicago, IL*

- Collaborated with designers to realize design intent while maintaining functionality, aesthetics, and manufacturability
- Owned in-house prototyping using FDM & laser machines; created documentation for high fidelity prototypes from model shops
- Led several brainstorming and ideation sessions on consumer electronic and mechanical products
- Developed CAD for several products for mass production using processes like injection molding, sheet metal bending, die casting
- Prototyped internal circuitry for miniature handheld toothbrush; communicated with vendors for fabrication of electronics
- Researched several fastening mechanisms, and prototyped two to test for viability in securing bike cargo accessories
- Owned several components in bike accessory product; created CAD for the same for Injection molding and sheet metal fabrication
- Increased load bearing capacity of snap buckle feature by 5 times with only design changes, keeping material constant
- Performed first principles analysis to create theoretical model of key components of novel braking system prototype
- Designed mechanism to apply braking via work done by compressing air, as opposed to conventional frictional braking
- Created prototype braking system architecture including mechanical, pneumatic, and electrical and mechatronics systems
- Defined technical product requirements of jump starter product based on client patent, RFP, and in-person interactions with client

PRODUCT DEVELOPMENT ENGINEER | HANK INDUSTRIES   *February 2017-August 2017, Chicago, IL*

- Interfaced with clients to build low volume, proof-of concept prototypes with 3D printing, laser cutting, CNC machining, etc.
- Designed automated food dispensing and lockout mechanism with RFID technology; developed 3D CAD models in SolidWorks, fabrication using 3D printing (Fused Deposition Modelling), circuit breadboarding, and Arduino programming
- Designed PCBs for IoT sensor platform in Eagle CAD; introduced new features to existing product; Improved on existing design to achieve moisture resistance; 3D modelled and fabricated enclosure for PCB via 3D printing and Laser cutting

MECHANICAL DESIGN INTERN | HLB (INTERNSHIP)   *June 2016-August 2016, Evanston, IL*

- Designed industrial dust-collection device to meet client's requirements for dust collection with minimal use of consumable filters
- Performed CFD simulations to validate performance of fluid system; created 3D CAD models for rapid prototyping using 3D printing; reduced prototyping costs by 50%; devised and conducted tests for dust collecting efficiency
- Collaboratively created complex 15-part assembly for fabrication with engineering team of four using parametric modelling, surfacing, and master modelling in SolidWorks; designed parts for plastic injection molding using polypropylene

Skills & Abilities

- CAD/CAM (SolidWorks., 6 years)
- Digital fabrication (laser cutting, 3D printing, CNC milling)
- Rapid Prototyping
- Mechanism design
- Product development

- FEA/CFD (ANSYS/SolidWorks)
- Design for manufacture and assembly
- Interaction design (Proto.io)
- Human centered design
- PCB design (Eagle CAD)

- Injection molding
- Electronics programming (Arduino IDE/C/C++)
- Electronics production (Soldering, Debugging, PCB Layouts)
- Coding (C, Lua, MATLAB)

- Die casting
- Sheet metal fabrication
- Rotational molding
- Music – performance (Drums)
- Music – production (Ableton,FL Studio)