Parth Bhatt

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Summary

I'm an energetic and competent Mechanical Engineer that can work across mechanical and electrical/electronic systems with ease. I aim to secure a position, contributing in a technical and creative capacity, working with multi-disciplinary teams on projects that improve people's lives.

Education

MS | DECEMBER 2016 | NORTHWESTERN UNIVERSITY
- Major: Engineering Design and Innovation, GPA 3.875

B. TECH | JUNE 2014 | VELLORE INSTITUTE OF TECHNOLOGY
- Major: Mechanical Engineering, GPA 3.2

Experience

MECHANICAL DESIGN ENGINEER INTERN | HLB LLC
June 2016-August 2016

- Researched design parameters and performed engineering analysis on existing design for validation purposes
- Generated novel Intellectual Property (patent pending) for client around an electronic jobsite appliance
- Performed CFD simulations of concepts to test viability using SolidWorks Flow
- Created models using SolidWorks for rapid prototyping using SLA
- Created CAD models of complex 15-part assembly for fabrication of looks-like works-like prototype using SolidWorks
- Iterated on CAD models to create parts for Manufacture and Assembly

FABLAB TECHNICIAN | CEPT UNIVERSITY
October 2014-July 2015

- Taught architecture students to use rapid prototyping & digital fabrication tools including laser cutters, CNC milling machines, electronics manufacturing, 3D printing, vinyl cutting, molding & casting
- Assisted startup companies with design and fabrication of prototypes in a technical capacity (CAD, Dimensioning, design for fabrication)

MECHANICAL DESIGN CONTRACTOR | UNITY ENGINEERS
June 2014-July 2015

- Designed and fabricated a model aircraft using a novel fuselage design, for the purpose of evaluation of flight characteristics
- Calculated Lift/Drag characteristics of different airfoils to determine optimal wing configuration for prototype
- Created BOM for prototype build including fasteners, structural components, motors, propellers, control rods, etc.
- Modeled aircraft using SolidWorks
- Fabrication of the airframe from XPS machined using a CNC router

MECHANICAL ENGINEER INTERN | MBH POWER
June 2012- August 2012

- Used ERP software for part requisition for power transmission systems
- Participated in Site maintenance of a 1MW Solar Plant

Relevant Class Projects

FLEX | EDI MASTER'S THESIS
September 2016

This project revolved around trying to prevent repetitive motion injuries in musicians by promoting prophylactic action before and after practice.
- Integrated Electronic, mechanical, and digital systems
- Performed Human Centered Design research to help define problem and possible solutions
- Created rapid prototypes to validate design directions
- Designed and Implemented Electronics/Mechanical system Using the Arduino and Processing Environments (Load cells, Linear actuator, GUI)
- Designed variable-angle hardware platform for interactive device
- Iterated on Prototype with two rounds of user testing

HUMAN CENTERED DESIGN WITH P&G
October 2015

This project sponsored by Procter & Gamble involved conducting several rounds of consumer research to discern the needs, wants, and tensions of consumers. Performed design research through intensive interviews and user testing. Delivered a new CPG concept to our client.
- Conducted Need-finding via in-home contextual interviews, on-site user testing and surveys
- Generated and prototyped several CAD models for rapid prototyping (SLA,FDM) using SolidWorks
- Created UI/UX prototypes using Adobe creative suite
- Created a new brand identity to resonate with the target audience of the concept
- P&G has acquired the Intellectual property of the project from us

SENIOR DESIGN PROJECT | SHOCK-ABSORBING BUMPER
November 2015

This project involved the design of a shock absorbing bumper for low-speed automobile collisions.
- Designed a mechanism inspired by scissor lifts to absorb impact energy from a low speed collision.
- Simulated mechanism in MSC ADAMS, modeled it in SolidWorks.
- Performed analytical calculations using MATLAB and verified them against simulation results from MSC ADAMS
- Performed material stress analysis and used data for material selection for struts and for bearings

Skills & Abilities

- CAD (Solidworks/NX)
- Digital Fabrication (Laser Cutting, 3D Printing, CNC milling)
- Mechanism Design
- Design for Manufacture and Assembly
- GD&T
- CAM (Vectrix, NX)
- FEA/CFD (ANSYS,SolidWorks)
- Human centered Design
- Phenomenal Communication Skills
- PCB Design (Eagle CAD)
- Electronics Programming (Arduino IDE/C/C++)
- Electronics Production (Soldering, Debugging, Board Layout)

Languages

English	*Native/Professional*
Gujarati	*Fluent*
Hindi	*Fluent*
French	*Basic*