Abhinav Prakash

LinkedIn |Phone: +1(832)613-5188 | Email:abhinavp147@gmail.com

Work Experience

- **Project Engineer** **Jan. 2020 - present**
  Ford AV, Houston
  - Designed innovative mounting techniques to suspend components weighing up to 500lbs in a public area
  - Design Audio-Video (A/V) systems worth $500,000 consisting of displays, cameras, racks and networking hardware
  - Conducted Root Cause Analysis (RCA) on existing systems and reconfigured/replaced system elements
  - Decreased design process time by 20%, by collaborating with estimators to generate sales quote
  - Obtained highest customer satisfaction rating by building unique customer training program for each system
  - Assisted Project Manager to liaise with vendors and customers, optimizing inventory, maintaining timeframes.
- **Product Design Engineer** **Mar. 2019 – Dec. 2019**
  Complex Fluids Lab, University of Houston
  - Led a team of four, to model 3 different setup ideas for an erosion-corrosion experiment using Solidworks, and fabricated optimal setup in terms of cost and material requirements
  - Established a flow rate of about 2GPM by designing a hydraulic circuit to connect pump, valves and eductor
  - Synthesized a system for maintaining constant water-sand mixing ratio in suspension and reduced budget by 50%
  - Conducted Root Cause Analysis (RCA) and DFMEA to isolate cause for constant leaking of tank.
- **Design Engineer** **Sep. 2019 – Nov. 2019**
  UH-Fluor Construction Driven Pipeline Design Challenge
  - Designed a 200,000ft pipeline transporting water from an elevation of 2000ft to 4000ft using AFT Fathom
  - Developed foundation design for pump stations to estimate equipment requirement and project cost
  - Reiterated for design improvement by using multiple pumps, reducing material wastage, thus lowering cost by 33%
- **Mechanical Design Engineer Intern** **Sep. 2014- Dec. 2016**
  Hum Aspen Pvt. Ltd.
  - Designed, fabricated and shipped a variety of mechanical products worth $15,000 and led a team of 8 technicians
  - Modeled design ideas for each project in Solidworks CAD software which were presented during design reviews
  - Complied with customer specified guidelines to receive good customer rating by drawing models with 3D CAD
  - Lowered development cost by 25% by Using DFA/DFM techniques on the mechanical design
  - Estimated project costs for each project by creating a Bill of Material (BOM) and defining a procurement strategy
  - Refined design producing over 100 variations by using analysis techniques such as FEA and CFD using ANSYS

Projects

- **Hysteresis in flow over a NACA 0012 airfoil** **Aug 2018-Dec 2018**
  - Made Dynamic surface mesh for NACA 0012 airfoil to identify angles of separation and reattachment
  - Compiled udf to simulate rotation of airfoil and applied appropriate turbulence model
  - Calculated important flow parameters such as coefficients of lift and drag for up to 100 seconds
  - Observed the alternating nature in vortex separation of the von Karman vortex street
  - Studied the dependency of von Karman vortex street on Reynold's Number
- **Flow in a Converging Diverging Nozzle** **Jan 2018 – May 2018**
  - Made 3 meshes to achieve grid independence and applied the Laminar flow model for simulations
  - Simulated Low Reynolds number flow through the nozzle to observe characteristic flow patterns
  - Varied throat diameter ratio to observe its effect on vorticity and outlet velocity

Education

- **Master of Science in Aerospace Engineering** **May 2019**
  Cullen College of Engineering, University of Houston

Relevant Coursework – Computational Fluid Dynamics, Fluid Dynamics, Control System Analysis and Design, Heat Transfer and Phase Change, Materials for Energy Storage

- **Bachelor of Engineering in Mechanical Engineering** **May 2017**
  R.T.M. Nagpur University, Nagpur, India

Relevant Coursework – Fluid Mechanics, Hydraulic Machines, Manufacturing Science, Production Planning and Control, Finite Element Analysis, Strength of Materials, Design of Machine Elements, Theory of Machines, Thermodynamics, Thermal Engineering