Naser Imran Hossain

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U.S. Permanent Resident (No Sponsorship Required)

Who am I?

Experienced Mechanical Design Engineer, Natural Problem Solver, Six Sigma Black belt and PMI-certified Technical Project Management Professional (PMP). Skilled in Strategic Planning, Process Mapping, Risk Assessment/Mitigation, Technical Leadership, Mechanical Design, Rapid Prototyping, Finite Element Analysis, Lean Manufacturing and Industrial Automation. Holds 12+ patents in medical devices, consumer product design, and industrial innovation. Led 50+ impactful product designs sprints for biotech, consumer goods, and industrial design leaders. Expert in design methodology development and high-stakes project execution. Demonstrated 10+ years of continuous professional growth, talent acquisition/retention, team formation and operational excellence in technical/design leadership roles. Specializes in manufacturing scale-up operations and executive alignments.

Skills

DMAIC/DFX/DFMEA | VALUE ENGINEERING | INDUSTRIAL DESIGN | MOLD DESIGN | CATIA/NX/SOLIDWORKS

SCIENTIFIC INJECTION MOLDING | ANSYS/ABAQUS/DYNA/COMSOL/OPENFOAM | FINITE ELEMENT ANALYSIS (FEA)

DESIGN THINKING | MATERIAL/POLYMER RESEARCH | TEAMCENTER/WINDCHILL/ENOVIA | SPC/MINITAB/R

TRELLO/ASANA/JIRA/MS PROJECT | DESIGN OF EXPERIMENTS (DOE)/NDE | KAIZEN/KANBAN/GEMBA/TPM/GMP

Professional Experience

01/2021 – present
San Diego

Director of Engineering (Previous Role: Engineering Manager)
Mettler Toledo International Inc

- Owning product lifecycle through concept, ideation, design, prototyping, assembly, validation and production launch
- Hands-on implementation of simulation and Finite Element Analysis (FEA) based approaches, reducing physical prototyping significantly and saving $200,000 in capital expenditure (CAPEX)/yr
- Utilizing Linear/Non-Linear FEA methods using ANSYS LS-DYNA to develop mold flow, drop test, structural/thermal failure simulations to aid in design decision making
- Applying ASME Y14.5 GD&T standards to design QC/QA Specs, measurement/test fixtures and control limits for IQ-OQ-PQ runs
- Implementing lean & continuous improvement principles in manufacturing and production, optimizing value stream mapping for Mettler Toledo and generating cost savings of $1.2MM/yr
- Applying knowledge of electromechanical assemblies while developing benchtop robots to reduce errors in assembly and failure points within the packaging
- Drive system and component level optimization runs, rapid iterations and analysis to make a robust interface between liquid consumables and benchtop automation robots
- Mentoring the team in stakeholder management and proactive communication, resulting in a significant improvement in cross-functional collaboration
- Facilitating team growth by nurturing individual development, fostering team synergy, and recruiting new talent, leading to noticeable increases in team productivity
- Ensuring compliance with ISO9001 and ISO13485 certifications for product development and engineering, avoiding potential penalties and maintaining product quality standards.

01/2017 – 01/2021
Diamond Bar

Packaging Design Manager (Previous Roles: Sr Design Engineer, Simulation Engineer)
Niagara Bottling

- Initiated the evolution to a simulation/virtual prototyping based design decision workflow using Non-Linear Finite Element Analysis for injection molding, blow molding and structural integrity analysis of molded part
- Lead with a hands on approach on ideation, prototyping, design, testing and rollout of consumer products using CAD/CAE tools and FEM/FEA methods for structural/topological optimization
- Scoped out and built DOE methods and testing setups for both R&D and Manufacturing teams, implemented Total Preventative Maintenance (TPM) strategies
- Developed standardized, Non-Destructive Testing (NDT) techniques for measuring hard to reach dimensions inside mold components and plastic molded parts
- Recruited & lead a team of around 7 engineers/scientist in a dedicated R&D Ecosystem
- Applied ASME Y14.5 GD&T and Statistical Analysis principles to streamline injection mold & tooling design.
- Oversaw 10+ Design/Utility patent submission under the design group as contributing inventor
- Supervised a team of technicians and shop floor personnel with production and R&D equipment handling and operations

10/2013 – 12/2016
Houston, TX

Tooling Engineer II
Schlumberger

- Directly managed the material selection, tool building, NDT/NDE cell construction and built testing for subsea oil extraction
- Lead instrumentation and tooling projects worth 5MM+ on North Sea and Gulf of Mexico
- Recruited, Trained and Managed a team of 3 junior engineers
- Assisted QC and Supply Chain with API 6A/17D qualification
- Defined the Finite Element Analysis principals of the entire company as a member of the FEA Board
- Performed finite element simulation on hyperelastic resin materials

08/2012 – 02/2013
Baton Rouge, LA

Research Assistant
NASA Kennedy Space Center (under NASA EPScOR program)

- Acted as "Lead Technical Liaison" from LSU for a $750K+ academic project with NASA KSC
- Ran fluid mechanics simulations for characterizing erosion patterns on NASA assets
- Built Thermal Barrier Coating system with numerically proven concepts using plasma impingement
- Collaborated with NASA hardware and system teams at KSC to understand strengths, weaknesses, opportunities and threats to existing flame trench assets
- Interpreted complex structural failure of existing flame trench coating and performed system level optimizations

Education

2011 – 2013
Baton Rouge, LA, USA

M.S., Mechanical Engineering
Louisiana State University

2006 – 2010
Dhaka, Bangladesh

B.S., Mechanical Engineering
Bangladesh University of Engineering and Technology

Patents

US20200298461A1 - Nozzle for Reduced Outward Force On Preform Finish
US20210122526A1 - Bottle assembly
US20210061510A1 - Swirl bell bottle with wavy ribs
US20210284376A1 - Offset wave groove bottle
US20220177199A1 - Multiple asymmetric anchor container closure