NIKHIL JOSHI

Tempe, AZ | +1-602-6392988 | joshi.nikhil15@outlook.com | LinkedIn | Willing to Relocate

EXPERIENCE

Jupiter Research LLC. *(Phoenix, AZ)* | Jr. Product Development Engineer **August 2022-Present**

- Spearheaded the development and implementation of innovative manufacturing processes for consumer vaporization hardware in a fast-paced, at-scale, engineering environment. Drove the creation and refinement of testing procedures and product specifications, employing initiative, originality, and ingenuity.
- Undertook extensive product validation and usability testing, refining designs to enhance performance, structural integrity, thermal management, and battery life.
- Executed design verification testing and validation and ensured all SOPs, ECOs, ECNs were up-to-date. Exhibited proficiency in creating and releasing essential project documents such as BOMs, Design Specifications, and Design Descriptions.
- Improved manufacturing efficiency by leveraging lean manufacturing principles to design and fabricate customized fixtures, effectively optimizing tooling, reducing material use and print time by ~20-30%.
- Experienced in working with certifications such as FDA, ISO 13485 alongside quality engineers.
- Demonstrated excellent communication, presentation, interpersonal, and organizational skills. Communicated project status and technical information effectively to stakeholders (both local and international) of varying technical understanding.

PROJECTS

CFD - Analysis of internal, external, and multiphase flow with heat transfer

- Generated CAD models with SolidWorks and ANSYS Design Modeler based on provided specifications. Employed both laminar and turbulent flow models to analyze and compare key parameters, Vorticity, and Stream function.

DoE -Test to measure the acidity among different types of coffee and its brewing methods

- Conducted a full factorial experiment 2^3 to assess acidity variations in freshly brewed coffee, employing a pH meter and managing data through Microsoft Excel while performing in-depth analysis (ANOVA) using JMP Pro statistical software.
- Investigated two-way and three-way interactions to evaluate significance of critical variables, enhancing understanding of their impact.

Liquid-Desiccant Dehumidification for Air Conditioning

- Conducted a comprehensive study on liquid-desiccant dehumidification to optimize humidity control and air temperature reduction. Optimized system performance through response surface methodology, focusing on variables such as inlet air temperature and relative humidity.
- Developed theoretical models and performed experimental analysis, achieving significant reductions in air temperature (from 35°C to 25°C) and humidity (from 0.021 kg/kg to 0.0055 kg/kg). Proposed hybrid systems for improved stability and performance in varied climates.
- Developed regression models to predict system efficiency, achieving a COP range of 1.44 to 2.4, demonstrating potential for energy savings and improved environmental impact.

EDUCATION

Master of Science, Mechanical Engineering **May 2022**

Arizona State University, Tempe, AZ, USA | GPA 3.3

Bachelor of Technology, Mechanical Engineering **June 2020**

Pandit Deendayal Energy University, Gujarat, India | GPA 3.5

SKILLS

Design/modeling/Analysis: SolidWorks, CREO, Ansys, GD&T, DFM/DFA, FMEA, Root cause analysis, Abaqus, COMSOL Multiphysics, Siemens Nx, Teamcenter, SimScale, Lean Six Sigma Yellow Belt
Statistical analysis: Design of experiments (DOE), Minitab, JMP
Other: Machining, Welding, Excel, MATLAB, Python, SQL, PowerBI, Acumatica ERP