# Hashim Khan

Assistant Manager : Kalyani Group

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## PROFESSIONAL SUMMARY

Accomplished Mechanical Designer with a robust background in R&D, product design, SPM design, Machine tool design and defense manufacturing. Expert in CAD tools like SolidWorks, Catia V5 and Siemens NX, coupled with a strong project design and management acumen. Proven track record in enhancing machining capabilities and implementing cost-saving measures, achieving significant in-house manufacturing advancements.

## SKILLS

Design Skills | Product Design | Machine Tool Design | Engineering Calculations | SPM | FEA | Robotics Design | Automation System Design | Electromechanical Systems | Pick and Place mechanisms | Plastic product design | Industrial Design | BIW trims | Manufacturing Skills | Process Design | 3D Printing | ECN | Control Charts | Manufacturing | Machining | Tool Development | NPD | Defense Manufacturing | Sheet-metal | CAD Skills | Solidworks (CSWP) | Siemens NX | Solid-egde | Catia V5 | AutoCAD | ANSYS Simulations (Stress, Strain, Static, Heat) | Solidworks Simulations | Design Thinking | Project Management | Time Analysis | Team management | Documentations | MS Office | Vendor Development and Management | SAP | Inventory Management | Product Design Iterations | Cost Reduction | Task Delegation | Operations Management | Geometric dimensioning and tolerancing | Manufacturing process knowledge | Electromechanical systems integration | Prototyping and testing | Engineering documentation | FEA and failure analysis | Prototype Development | Mechanical system design | Mentoring and training | CAD Drafting | Product Development | CATIA V5 | SolidWorks 3D models | Data Analysis

Metal Fabrication | Root Cause Analysis | Vibration analysis | Microsoft Excel | Design reviews | FMEA | Complex problem solver | Test procedures

## EXPERIENCE

**ASSISTANT MANAGER, Pune**

Kalyani Group, Bharat Forge Ltd, June 2023

- Designed defense grade machine tools, material selections, used GD&T
- Design and developed Long machining test fixtures, Inspection test rigs
- Extensive use of CAD tools like Solid Edge, Siemens NX, Solidworks for various Machine Tool building
- Developed MQP, stage-wise gun barrel manufacturing drawings, ITP, cycle time charts, and Tooling SOPs
- Achieved In-house manufacturing capabilities for machine tools for defense manufacturing
- Implemented Tooling SOPs, KAIZEN, 5S, TPM methods which reduced human fatigue
- Developed various defense tooling and fixtures which enable us to increase our machining capabilities
- Developed various Bill Of Materials and Engineering Change Notices management
- Worked on Ultrasonic testing, Magnetic Particle Inspection and Optical Boroscope Visual testing
- Performed lathe machining setup operations, Autofrettage operations, DHD, Honing and Threading
- Data Creation and Analysis of production cycle time data in MS-Excel, enabling prediction for production time.

**ENGINEER R&D, Pune**

Kalyani Group, IoT R&D Team, August 2020-June 2023

- Product Development for vibration sensor enclosures and DAQ with multiple iterations (Forging, Machining)
- R&D on various product materials to cater the strenght, durability and aesthetics's of Forgebrain (DAQ) like -wood, aluminium, plastic, glass
- R&D on 3D printed wireless Sensor enclosure product design and development for heavy forging machines, with magnetic anywhere mount system
- R&D on Flexible 3D printed Sensor Cable support design for power input cable
- Sensor Data Acquisition and analysis on AI-ML model for predictive maintenance
- Historical data analysis from shop floor SME for machine behaviour analysis
- R&D on Development of medical product - Sanjeevani (COVID-19) SpO2 Based Smart Oxygen Delivery System, ensuring
- Continuous monitoring and oxygen supply for COVID-19 patients to prevent Hypoxia
- R&D and product design and development on SpO2 sensor and developed 3d printed product with soft plastic and medical grade plastics
- Oxygen control unit design and development containing electro-pneumatic, push-buttons, Touch screen, USB ports, pneumatic ports for oxygen pneumatic circuit and Bio-sensors
- Mathematical modeling of forging press kinematics using python
- Crafting SPM systems for diverse shops for Computer vision based inspection system, crack detection and marking system, executing LM Guide rail selection, ball screw selection, linear Bearing selections, motors selections
- Design and Developed electromechanical systems pick and place robotics system, Robotic cell design and operation planning for drive shafts and crankshafts
- Design and Development of Robotic gripping and rotating system for computer vision based inspection

- Design of BIW door parts using Catia V5 for vehicles
- Designed Eco-friendly plastic solutions catering to both Industry 4.0 and medical product
- Demonstrating proficiency in 3D CAD- Solidworks, Catia V5, 3D printing, machining, prototyping
- Collaborating closely with experts to ensure accurate machine data and machine data analysis using python
- Managing diverse projects and vendor relationships across multifaceted projects.

**MECHANICAL DESIGNER, Pune**

Beauto Systems, January 2020-August 2020

- R and D in the company's first robotics project and setting up the labs
- Developed algorithms and workflow of AGVs, Robotic arms for warehouses and Battery charging farms
- Designing and fabrication of parts, assembly, and testing in workshop facility
- Working on system simulations, material selections, and mathematical modeling simulations for the systems
- Working on and Solidworks for design
- Designed various food process automation systems.

**MECHANICAL PRODUCT DEVELOPER, Bengaluru**

Footloose Labs (Contract), April 2019-August 2019

- Developed 5-6 DOF arm with drive systems integration and pharmacy warehouse automation
- Conducting precise engineering calculations for machine parts optimization
- Leveraging MATLAB, Octave, SolidWorks, and Ansys for intricate design and simulation tasks
- Managing vendors and meticulously organizing inventory
- Overseeing the fabrication and rigorous testing of prototypes.

**DESIGN ENGINEER, Pune**

Aliyance Mechatronics, August 2017-March 2019

- Collaborating with the Government of Gujarat at Roboseum, part of Gujarat Science City, to create an engaging Robotics museum spanning history to modern innovations
- Design and developed various robotics systems for specific automation system requirements
- Hand's on experience on 3D cad using Solidworks, FDM 3D printing and postprocessing
- Contributing to the design and simulation of robotic systems, including Arm Manipulators, XYZ Gantry systems
- Performed 3D printing Lab management, inventory and materials management
- Developed ALROCO Model project which was 3D construction printer
- Liaising with govt officials for weekly project review.

**TEA SUPPLIER, Kanpur**

Self Employed, May 2009-June 2017

- Tea supply to local tea stalls and hotels.
- Paper cup distribution to the customers.
- Managing costing and supply demand for the local market.
- Maintained records of purchases, including item descriptions, quantities purchased, prices paid, delivery dates.
- Managed relationships with vendors in order to obtain competitive pricing on goods and services.

**TEACHER, Kanpur**

Self Employed, February 2013-March 2017

- Education initiative in High school level Physics, Chemistry and Mathematics.
- Motivated and engaged students, developing skills and knowledge for academic foundation.
- Provided feedback to parents regarding student's academic growth and behavioral development.
- Developed experimental setups for physics and chemistry experiments for better understanding.

## EDUCATION

**BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING**

Dr. APJ Abdul Kalam Technical University, May 2017

**SSC, New Delhi**

Ramjas Sr Sec School No.4, June 2013

## CERTIFICATIONS

- Certified Solidworks Working Professional- Dassault Systems
- CATIA V5 Automotive Chassis Training - Tata Technologies
- Python For Mechanical Engineers - Decibel labs
- Catia V5- Automotive, Industrial - Udemy
- Pro-E Wildfire/Creo - I Cad Cam Software solutions
- Solidworks 2024 Advanced Part Modeling Workshop - Tata Technologies
- CATIA V5 Automotive Structures Training - Tata Technologies
- Siemens NX- Automotive, Industrial - Udemy
- AutoCAD Mechanical Design - I Cad Cam Software solutions
- Introduction to Geometric Dimensioning and Tolerancing - LinkedIn

## WEBSITE, PORTFOLIO AND PROFILES

- https://www.linkedin.com/in/scienaut/
- https://scienaut.github.io/

## LANGUAGES

- **Hindi**
  Native
- **English**
  Bilingual

## PUBLICATIONS

- Enhancing mechanical properties of jute fibre/glass fiber and epoxy combined hybrid composite laminates
- Robotic Arm Joint Gearbox comparison
- Importance of Soil tests