Pavan Kumar Bandla

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SUMMARY

Mechanical Design Engineer with hands-on experience developing mechanical components and assemblies using CAD tools such as CATIA, SolidWorks, and AutoCAD. Proficient in Engineering Calculations, GD&T (Geometric Dimensioning and Tolerancing), Material Selection, and Design Validation using FEA (ABAQUS) and CFD. Well-versed in Manufacturing Processes, Quality Standards, 5S methodology, and Kaizen for continuous improvement. Experienced in Automation and Robotics (ABB, KUKA), with strong programming skills in Python, MATLAB, and MS VBA. Adept at Prototyping, Tolerance Analysis, Technical Documentation, and Cross-Functional Collaboration, with a passion for Aerospace, Mechatronics, and Advanced Manufacturing.

EDUCATION AND TRAINING

NBKR Institute of Science and Technology, Vidyanagar, India – *B. tech, Mechanical Engineering - GPA: 8.6* **Jun 2023 - May 2026**

S.V Govt Polytechnic College, Tirupati, India - *Diploma, Mechanical Engineering* **Mar 2018 - Jun 2023**

SKILLS

Design Software	: CATIA V5, 3DEXPERIENCE, SolidWorks
Modeling	: CAD Drafting, 2D and 3D modeling
Simulation	: ABAQUS
Programming	: Python, MATLAB
Office Tools	: MS Office, Soft Skills
Robotics	: ABB, KUKA

PROJECTS

Development of steel foam manufactured from machining waste for automobile crash protection **Feb 2025 - Apr 2025**

- Supported final-year students in a Dassault Systems project by developing an MS VBA script in CATIA to automatically generate porous structures within 3D parts based on user
  inputs, enhancing design efficiency and enabling rapid iteration of lightweight, optimized components.

A to B Surface Creation, APSSDC **Jun 2024 - Jul 2024**

- Completed a project on A to B surface creation of a parcel shelf using CATIA V5, demonstrating proficiency in Class A surface modeling and automotive interior component design.

Super Market Bill Generation **Nov 2023 - Dec 2023**

- Developed a real-life supermarket billing system using Python, incorporating item selection, quantity input, price calculation, and automated bill generation for efficient checkout processing.

Mini Projects

- Design & CAD: JCB Arm Assembly, 4-Stroke Engine Model, Multi-purpose Knife, Chess Pieces Assembly
- Automation & Robotics: Pick-and-Place Robot, Helical Spring CATIA Automation (VBA), Leaf Spring Automation, helical spring automation, gear design automation
- Others: Modeled various mechanical and consumer product designs, including a Computer Mouse, SPAS-12 Gun, M416 Rifle, CFL Bulb, Fan Assembly, and Ball Bearing.

CERTIFICATIONS

Electric and Hybrid Vehicles Workshop, Skyy Skill	**Dec 2024**
Industrial Robotics: Theories for Implementation, NPTEL	**Nov 2024**
MATLAB Completion of MATLAB Onramp, MATLAB academy	**Oct 2024**
CATIA Advanced Surface Design, APSSDC	**Jul 2024**
Python Programming, Internshala	**Jun 2024**
SolidWorks Course, EDX e-learning platform	**Apr 2024**
GD&T Foundation Course, Codienter	**Mar 2024**
CATIA Product Design and Drafting, APSSDC	**Dec 2023**
CATIA Basics Course, Great Learning	**Nov 2023**
Python Basics and Python 3, Programming Hub	**Nov 2023**

EXPERIENCE

Quality Control Inspector, GreenTech Industries, Konetirajupalem, Naidupeta, India **Jun 2022 - Feb 2023**

- Worked as a Roaming Quality Control (RQC) member, Earlier Production Containment Plan (EPCP) member, and served as an inspector at the Control Shipping Level (CSL) workstation during my 6-month internship.
- Inspected products for defects and conformance to customer specifications using precision measuring instruments.
- Monitored production processes to ensure quality standards were met and documented results of inspections.
- Reviewed customer complaints and identified potential sources of quality issues.
- Tested finished goods prior to shipment according to established protocols.

ACTIVITIES AND HONORS

First place in paper presentation, N.B.K.R Institute of Science and Technology	**Apr 2025**
participated in Project expo, N.B.K.R Institute of Science and Technology	**Apr 2025**
First Place in Paper Presentation on Additive Manufacturing, Narayana Engineering College	**Aug 2024**
First Place in CAM, SAE India	**May 2024**
First place in python, SAE India	**May 2024**
First Place in CAD Conqueror, N.B.K.R Institute of Science and Technology	**Mar 2024**
Second place Byte Battle, N.B.K.R Institute of Science and Technology	**Mar 2024**

VOLUNTEERING

Volunteer **Apr 2025**

- I volunteered as part of the core organizing team for Mexodia 2025 at NBKR Institute of Science & Technology, Vidyanagar. Assisted in event logistics, coordinated participant registrations, managed on-stage flow, and supported judges during technical sessions. Gained hands-on experience in time management, teamwork, and real-time event handling.