KUSH PRAJAPATI

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PROFESSIONAL SUMMARY

- Electromechanical Engineering Technologist with hands-on experience in **mechanical design, process optimization, and automation systems**.
- Proficient in **SolidWorks, Siemens NX, and Inventor** for 3D modeling, assemblies, and fabrication drawings.
- Skilled in **fixture design, machining, and mechanical-electrical integration**, with strong knowledge of **fabrication and GD&T principles**.
- Practical exposure to **CNC, pneumatics, PLC-controlled robots, and prototype testing** in manufacturing environments.
- Known for **problem-solving, communication, and continuous improvement mindset**, bridging design intent with manufacturability.

SKILLS

- **Design & CAD:** SolidWorks, Siemens NX, Autodesk Inventor, AutoCAD, MasterCAM, EPLAN P8
- **Mechanical Systems:** Fixtures, Jigs, Pneumatic Systems, Servo Mechanisms, Packaging Equipment
- **Manufacturing Processes:** Machining, Fabrication, Prototyping, Assembly, GD&T, Tolerancing
- **Automation & Controls:** Siemens TIA Portal, Allen-Bradley RSLogix 5000/CCW, FactoryTalk View HMI, Sensors & Actuators
- **Software Tools:** MATLAB/Simulink, NX MCD, PLCSim Advanced, Node-RED, MS Excel (VBA)
- **Soft Skills:** Communication, Problem-Solving, Team Collaboration, Adaptability, Continuous Improvement

EDUCATION

Seneca Polytechnic - Advanced Diploma **2023 – 2025**
Electro-mechanical Engineering Technology - Automation *North York, ON*

Saffrony Institute of Technology - Diploma **2018 - 2021**
Mechanical Engineering *Mehsana,Gujarat*

EXPERIENCE

Manufacturing Engineering Co-op **Sep 2024 - Apr 2025**
INNIO Waukesha *Welland, ON*

- Designed and improved **fixtures and tooling** for CNC machining operations, ensuring accurate part positioning, faster changeovers, and safer setups.
- Inspected **400 machined pistons** using ZEISS and Mahr CMMs as per engineering blueprints.
- Operated **Haas and Mazak CNCs**, applying SPC principles for machining and process optimization.
- Supported **Fanuc robot troubleshooting** for part-handling and motion sequence issues in the piston cell.
- Created **3D models, 2D drawings, and work instructions**, ensuring manufacturability and operator clarity.
- Collaborated on **MRB reviews, root-cause analysis, and corrective actions** for non-conformances (NCs).
- Developed **inspection instructions** in Q-DAS and Excel-based **part lists** for simplified assembly reference.
- Contributed to **FPQ, 5S, and Lean manufacturing initiatives**, streamlining operations and reducing process variation.

Engineering Projects (Academic)

Automated Weight Sorting System– Click Plus PLC, Node-RED

- Designed and built a fully automated weight-based sorting system using load cell sensors, servo-driven reject mechanism, and PLC-HMI integration.
- Created 3D models, wiring diagrams, and Node-RED MQTT dashboard for real-time process monitoring.

KUKA KR3 R540 Digital Twin– NX MCD & WorkVisual

- Developed and virtually commissioned a KUKA robot cell for pick-and-place operations, integrating sensors, PLC logic, and path optimization.

3D Scanning & Reverse Engineering Project– Seneca Polytechnic

- Reverse-engineered and digitally recreated a **Sheet Holder component** to support **robotic simulation and CAD-based design**.
- Captured precise geometry using the **Hexagon Absolute Arm** and processed scan data in **Geomagic Design X**, followed by reconstruction and alignment in **Siemens NX**.
- Ensured dimensional accuracy across multiple scan perspectives to create a reliable 3D model for future manufacturing and assembly integration.