SANJAY KUMAR YADAV

MAINTENANCE TECHNICIAN – Mechanical 3D Drawing Interpretation, Gearbox Shaft Alignment

sanjayadav1100@gmail.com +1 416 731 6106 Windsor LinkedIn

SKILLS

- **PLC Programming & Scripting**: Allen Bradley PLC ladder logic development, I/O configuration setup.
- **Control Systems**: PLC diagnostics, sensor integration, relay logic circuits, and panel wiring layouts.
- **MATLAB Programming**: Algorithm modeling, signal analysis, numerical computation and simulation.
- **Mechanical Systems**: Motor installation, gearbox shaft alignment, and bearing inspection techniques.
- **Hydraulic Systems**: Hydraulic circuit analysis, pump maintenance, and valve calibration procedures.

WORK EXPERIENCE

Sheet Metal Operator **September 2023 – December 2025**
Sarata Manufacturing *Ontario*

- Programmed CNC press brake, milling, and laser tube cutting systems executing 45+ part setups monthly, reducing cycle time by 18% through parameter optimization and tooling calibration control.
- Interpreted GD&T 3D mechanical drawings, converting 60+ designs into manufacturing formats, decreasing dimensional deviations by 22% through tolerance stack-up analysis and process validation.
- Administered NCR documentation, coordinating with production manager and clients, resolving 30+ rejected components quarterly, increasing performance by 25% and reducing downtime by 18%.

Mechanical Maintenance Supervisor **2020 – 2021**
Shaurya Cement Plant *Siraha*

- Directed conveyor belt installation and patching operations, supervising 12 technicians, reducing unplanned downtime by 28% through preventive maintenance scheduling and alignment verification.
- Led millwright rigging welding teams aligning gearbox motor shaft assemblies, decreasing vibration amplitude by 32% using dial indicators and precision shimming techniques.
- Engineered 3D CAD models for shafts, hoppers, pulleys, and chutes, fabricating 25+ replacement components annually, improving fit accuracy by 30% and minimizing installation rework incidents.

PROJECT EXPERIENCE

Smart Parking System
Team Lead, Ontario

- Engineered Arduino UNO prototype integrating servo motors, LEDs & LCD modules improving accuracy 30%.
- Programmed vehicle entry exit tracking algorithm updating slot count display reducing errors by 40%.
- Directed hardware integration and signal calibration ensuring gate response latency under 2 seconds.

Hydraulic System Simulation
Team Lead, Ontario

- Developed nonlinear Simscape hydraulic cylinder model optimizing displacement curve stability by 35%.
- Tuned viscous damping coefficient reducing oscillation amplitude by 28% during extension and retraction cycles.
- Analyzed mass spring system parameters achieving smooth rod motion with zero transient spikes.

Centrifugal Pump Design
Team Lead, Ontario

- Designed pump components in NX including impeller casing shaft and coupling improving fit tolerance by 22%.
- Performed ANSYS von Mises stress creep fatigue analysis increasing structural reliability by 31%.
- Evaluated structural modal frequencies eliminating resonance risk across 5 operational mode shapes.

Spot Welding Simulation using Process Simulate
Team Member, Ontario

- Configured robotic stations synchronizing dual conveyor inputs using PLC control increasing throughout 26%.
- Programmed automated alignment and weld sequence using kinematic calibration achieving positional tolerance.
- Optimized robotic pick place cycle time through cycle-time analysis reducing idle time by 18% in 3 workstations.

EDUCATION

Master of Mechanical Engineering September 2023 - December 2024
University of Windsor, Windsor, Ontario
Bachelor of Engineering August 2015 - December 2019
Dr Ambedkar Institute of Technology, India

CERTIFICATIONS

- **Learning PLC Programming, Preparing for industrial mechanic millwright test**