RAJ PATEL

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Profile

Mechanical Engineer with experience in production optimization, machine design, and maintenance. Skilled in AutoCAD, SolidWorks, with expertise in project management, process improvement, and equipment calibration.

Experience

CYLINDER TESTER | AIR LIQUIDE | CORNWALL,ON | FEB 2025- AUG 2025

- Use ultrasonic machines (NDT testing) to inspect gas cylinders for damage, leaks, corrosion.
- Perform pressure/leak tests per safety standards.
- Ensured compliance with GMP and organizational QA policies, performing internal audits aligned with ISO standards and regulatory guidelines.
- Maintain/requalify cylinders for safe use.

QUALITY CONTROL TECHNICIAN | OMEGA TOOL CORP | WINDSOR,ON | MAR 2024-JAN 2025

- Conducted incoming, in-process, and final inspections to enforce SOPs and identify defects, preventing non-conforming materials from entering the supply chain.
- Performed engineering calculations for load sizing, pressure drops, and equipment selection.
- Produced detailed CAD models, assemblies, and BOMs.
- Supervised mechanical design teams on project-level tasks.
- Maintain design specifications, and engineering change notices **(ECR)** for future reference.
- Performed statistical quality analysis using control charts and Lean initiatives to resolve operational bottlenecks, enhancing workflow efficiency.

PROJECT INTERN | SKF BEARINGS AND LUBRICANTS LTD. | JAN 2022-SEP 2023

- Assist in the analysis and optimization of production processes to improve efficiency and reduce costs.
- Participate in time and motion studies to identify bottlenecks and streamline operations.
- interpreted engineering adjustments offered for the drawings and put them into practice.
- examined project designs and drawings for faults in measurement and technical aspects.
- Participate in developing and implementing quality assurance procedures.
- Work closely with production engineers and supervisors on active projects.

SUMMER INTERN | FERROMATIK MILACRON INDIA LTD. | JUN 2022- JUL 2022

- supported a range of engineering projects with the goal of advancing social, ethical, and technological competencies.
- collaborated with others in a team setting to sustain high output levels.
- information gathered for study, optimization, and reduction of a machine's idle time.
- Supported clerical tasks, according to both regular and unique needs.

Skills & Abilities

- **Mechanical Design:** Sheet metal parts, welded assemblies, 2D/3D modeling, Performed engineering calculations (stress, load, pressure) to validate machine designs and material selections.
- Supervised documentation workflows, including drawing registers, requisitions, and ISO-compliant quality checks.
- **MATLAB, AutoCAD, Ansys, REVIT**
- Designed and validated hydraulic/pneumatic systems **Solidworks**
- **Manufacturing Support:** Troubleshooting bending/assembly issues, plasma cutting prep, ERP integration
- **Inventory Management**: Maintaining spare parts, SAP, cost-effectiveness
- **Software and Tools**: CMMS, AutoCAD, SolidWorks, **MiniTab,** Wrike
- **Safety and Compliance**: Safety standards, regulatory guidelines, audits, corrective measures, workplace

compliance

- **Problem Solving and Lean Initiatives**: Investigate, troubleshoot, resolve, mechanical issues, operational issues, lean initiatives, workflow efficiency
- **Cross-functional Collaboration**: Multi-disciplinary teams, engineers, contractors, operations staff, equipment performance, process enhancements
- **Specialized Knowledge**: Robotics, automation systems, warehouse technologies

Education

MASTER OF ENGINEERING, MECHANICAL ENGINEERING
University of Windsor| Windsor, ON, Canada | 2024

BACHELOR OF ENGINEERING, MECHANICAL ENGINEERING
Nirma University, Institute of Technology | Ahmedabad, India | 2023

Projects

TEAM MANAGER | ROBOCON 2021 | AUG 2021- JUL 2022

- handled a varied team well throughout the tournament, making sure that there was clear communication, inspiration, and a spirit of cooperation.
- proactively resolved any problems, disputes, or difficulties that came up as a team during the tournament.
- gathered and incorporated team input to enhance plans and tactics in real-time for increased performance.
- listened intently to team members' worries and promptly addressed them, creating a positive environment and preserving team spirit.

TEAM MEMBER | ROBOCON 2020 | JUN 2020- JUL 2021

- Perform thorough testing to confirm functionality and quickly resolve any issues found for best performance.
- To improve machine performance and overcome obstacles, collaborate closely with the engineering and design teams.
- use of solidworks and Ansys, CAD/CAM software programs.

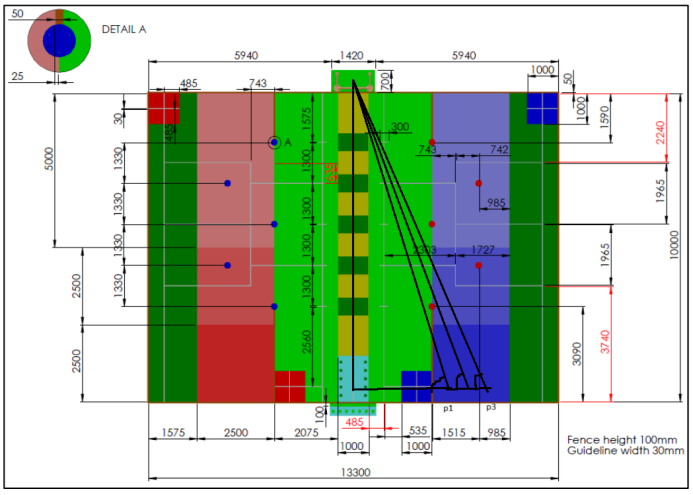
Certification

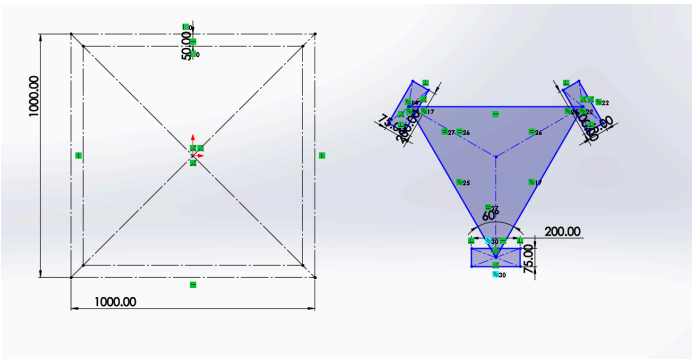
WHITE BELT LEAN SIX SIGMA
The Council for Six Sigma Certification (CSSC)

YELLOW BELT SIX SIGMA
6sigmastudy

CERTIFIED QUALITY PROCESS ANALYST
American Society of Quality

Project 1

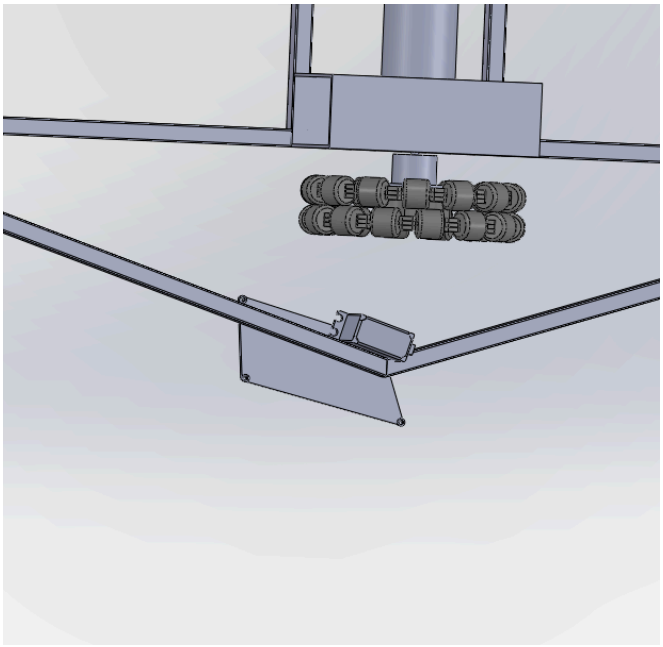


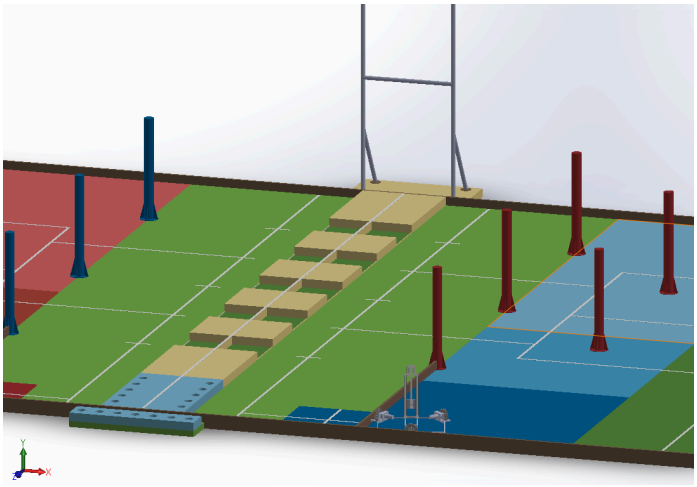


Calculations

1) Approximate angle of robot to shoot the rugby ball:

atan(10000/2770)= 74.49 deg, this reflects in the base angle of robots drive (actual angle=72.5)





There were 3 angles to accommodate so this wall follower was designed. This was done by trial and error, first in the software then practically.

Practice models