

# W.G.M. WELIKUMBURA

## Mechanical & Process Engineering

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### SUMMARY

Motivated mechanical engineer skilled in designing, developing, and testing mechanical components and systems, including hands-on experience with 2D/3D CAD modeling, detailed technical documentation, and compliance with industry standards and regulations. Proficient in collaborating with cross-functional teams and resolving mechanical issues during prototyping and production stages. Eager to contribute strong problem-solving skills and innovative solutions as part of a dynamic engineering team.

### EXPERIENCES

#### Michelin Lanka (Pvt) Ltd, Ekala, Jaffna

Feb 2025- Aug 2025

Internship

- Designed, developed, and optimized mechanical systems and components for wheel manufacturing.
- Created and maintained detailed 2D/3D CAD models and technical documentation using SolidWorks and AutoCAD.
- Collaborated with cross-functional teams on product development and process improvements.
- Troubleshoot and resolved mechanical and robotic system issues during prototyping and production.
- Ensured compliance of designs and documentation with industry safety standards and mechanical regulations.

#### Upwork & Freelancer, Sri Lanka

Sep 2022

Freelance Designer

- Provide end-to-end solutions in polymer additive manufacturing, including design, model optimization, and prototype development (Directly relevant to Design and preparation of models of mechanisms and production machinery).

### EDUCATION

#### Bachelor of Science (Honors) in Mechanical and Process Engineering University of Jaffna

Apr 2021-Nov 2025

- Full-time Mechanical and Process Engineering student at the University of Jaffna, pursuing a comprehensive degree program. Passionate about applying engineering principles to solve real-world challenges. Eager to leverage academic knowledge and skills in a professional setting. Actively seeking opportunities for growth and collaboration within the field.

### SKILLS

- Industrial Automation (CNC, FANUC Robotics)
- PLC (Siemens S7-1200)
- Design & Modelling (AutoCAD, SolidWorks, Siemens NX)
- Project Management
- Engineering Documentation
- Lean Six Sigma Principles
- Hydraulics & Pneumatic Circuit Design
- 3D Printing
- Rapid Prototyping
- Written Communication
- IT Literacy
- Manage Client Expectations
- MS Office, Excel, PowerPoint

## PROJECTS

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### **Multi-medium Multi-purpose Drone & Autonomous Solar Panel Cleaning Robot** 2024 - 2025

#### **Final Year Research (Interdisciplinary) Project**

- Emphasize this as a Mechatronic Solution. Highlight the combined mechanical, control, and sensor integration aspects of the Autonomous system.

### **Semi-Automated Conveyor Bed Design & Fabrication for Shearing Machines - Internship** 2025

- Designed and implemented a semi-automated conveyor bed, including dimensional survey, material selection, and structural analysis, ensuring optimal performance and compliance with manufacturing standards.

### **Overhead Gantry Crane Design (5 Ton, Dual-Axis) - Internship** 2025

- Led the design and documentation of a dual-axis overhead gantry crane, with a focus on safety, load capacity, and adherence to engineering regulations.

### **Skill Development (M02) Project - Internship** 2025

- Developed training content, job role expectations, and maintenance procedures/checklists for technicians, directly supporting team supervision and documentation.

### **Machine Risk Assessment (ARM) Project - Internship** 2025

- Conducted machine risk assessment to identify hazards and improve the overall safety of machinery and personnel within the plant, directly aligning with your duty to Ensure the safety of the personnel, plants and machinery.

### **Floating Solar PV Panel System - Final Year Research Project (Senior Batch)** 2023 - 2024

- Led the design, focusing on feasibility, structural calculations, and component selection, demonstrating ability to handle investment appraisals for plant capability enhancement projects.

### **Design a Foot Pedal Air Pump** 2024

- Designed a foot pedal pump with dual cylinders for efficient tire inflation and domestic applications using SolidWorks; performed analysis in ANSYS and hand calculations for validation.

### **Design and Development of a Coconut Oil Extruder Machine** 2022

- Designed the CAD models in SolidWorks and developed a prototype for a piston-based coconut oil extruder.

## CERTIFICATIONS AND LICENSES

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|---|------------------------------------|
| • SolidWorks CAD Design Associate (CSWA)      | - Dassault Systèmes                |
| • SolidWorks Additive Manufacturing Associate | - Dassault Systèmes                |
| • Additive Manufacturing Specialization       | - Arizona State University         |
| • Lean White Belt Certification               | - Lean & Green Solutions (Pvt) Ltd |
| • Six Sigma Yellow Belt Specialization        | - University System of Georgia     |
| • Product Design, Prototyping & Testing       | - University System of Maryland    |