

# THIMIRA GALHENAGE

Mechanical and Manufacturing Engineering (BSc. Hons. Eng)



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Mechanical Engineer with experience in Industrial Design, Control & Automation Systems, Lean & Six Sigma principles, Maintenance Management and Project Management. Skilled in SolidWorks, AutoCAD, MATLAB, PLC programming and Robot Programming. Hands-on experience in developing automation solutions and designing industrial machinery. Known for innovative problem-solving, teamwork and a strong commitment to delivering efficient, practical engineering solutions.

## WORK EXPERIENCE

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### Student Instructor - Faculty of Engineering, University of Ruhuna

2025 Aug - 2025 Oct

- Assisted undergraduate students in understanding engineering drawing fundamentals, CAD practices, and technical drafting techniques.

### Trainee Mechanical Engineer - Global Engineering, Ansell Lanka (Pvt) Ltd

2024 Nov - 2025 Mar

- Gained hands-on experience in automation and manufacturing processes, including CAD design, PLC programming, and robot programming.
- Designed an automated Liquid Texturing Tank using SolidWorks equations by entering specific parameters.
- Developed, fabricated, and installed a flow control system for liquid texturing tanks to address high-pressure issues while maintaining compression ratios.
- Performed line balancing on the Smart Dip Production Line using stations, buffers, and VFD-controlled conveyors.
- Designed components and programmed PLCs for units in the new Printing Machine project.
- Designed and fabricated a new Glove Former for Ansell Vietnam by analyzing product requirements.

### Trainee Mechanical Engineer - Hayleys Fabric PLC

2023 Oct - 2024 Jan

- Hands-on exposure to industrial maintenance, condition-based monitoring, boiler/utility systems, MTTR/MTBF analysis, and engineering documentation.
- Designed a bucket elevator to increase biomass storage capacity and operational efficiency.
- Designed and fabricated an oil filter machine to clean and improve furnace oil quality.
- Designed an automated hopper weighing system to monitor biomass usage accurately.

## CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

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- Lean Six Sigma Yellow Belt – The Lean Six Sigma Company (2024)
- Java Application Development using JavaSE – Computing Services Centre, University of Colombo School of Computing (2021)
- Pearson Assured Diploma in Information Technology (DITEC) – Esoft Metro Campus, Pearson Assured Organization (2020)
- Graphic Design (Distinction Pass) – Infobit Lanka Computer School (2017)

## UNDERGRADUATE PROJECTS

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- **Dip Line Automation Project (Ansell Textile Lanka) - Final Year Capstone Project**

Developed an automated glove-dipping process with robotic and PLC integration to reduce headcount and enhance productivity, consistency and labour ergonomics. Applied line balancing, custom robot tooling, simulations and pneumatic systems to optimise performance.

- **Smart Weighing Bin Design Project - Final Year Design Project**

Designed an automated weighing bin with load-cell integration, microcontroller control and a feedback-based dispensing mechanism. Developed CAD models and simulations to improve accuracy and flow efficiency for supermarket bulk-food applications.

- **Glove packing automation project (Ansell Lanka) - Rextro University exhibition project**

Collaborated with Ansell to develop a glove-packing automation demonstration for the Rextro University exhibition. Utilized PLC programming, robot and SCARA arm programming, 3D and 2D vision systems and AMR technology to showcase industrial automation solutions.

- **Aluminium Profile Inspection Machine Project**

Developed an automated defect-detection system for aluminium profiles using AI-based image processing. Integrated machine vision, limit switches, and pneumatic actuation to enable automated sorting, improving inspection accuracy and production efficiency.

- **Salinity Barrier Design Project**

Involved in the engineering design of a salinity barrier across a river near Galle. Contributed to structural design considerations, hydraulic analysis, and feasibility review. Developed analytical thinking in water control structures and environmental impact assessment.

- **Automated Bra Cup Moulding Project**

- **Animal Motion Mechanism Mini Project**

## ACHIEVEMENTS AND EXTRA-CURRICULAR ACTIVITIES

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- Winner - Techno 2025 CAD Eager Competition, organized by IESL
- Team Leader (Marketing) - Mexcellence 2025, University of Ruhuna
- Media Secretary - IMechE Student Chapter, University of Ruhuna
- Sports Enthusiast - University of Ruhuna

## SKILLS

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- Mechanical & Design Software - SolidWorks, Autodesk Inventor, AutoCAD, Ansys
- Automation & Analysis Tools - MATLAB, PLC Programming, Robot Programming
- Maintenance & Inspection - Condition-Based Monitoring, Nondestructive Testing (NDT), Vibration Analysis
- Process Improvement & Lean Tools - Lean Principles, Six Sigma, 5S, Kaizen
- Productivity & Documentation - MS Office, Smartsheet, Google Workspace
- Work Management Skills - Problem-solving, critical thinking, Communication, teamwork, time management

## REFERENCE

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**Mr. Gogullan Amirthakulasingam**

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