



# Mohammed Aathil

Mechatronics Engineer



+94770315354



aathilmaslam@gmail.com



Mohammed Aathil



No. 360, TCH, Hijra Junction, Sammanthurai, Sri Lanka.

## WORK EXPERIENCE

Industrial Trainee – Mechanical Engineering (Maintenance, Facilities & MEP)

**3 Months Internship | Airport & Aviation Services (Sri Lanka)**

2025

**(Private) Limited – Sri Lanka**

- Trained in HVAC systems, elevators, escalators, moving walkways, passenger boarding bridges, and baggage conveyor systems.
- Supported preventive maintenance, inspections, and MEP coordination activities.
- Assisted in basic BOQ calculations and material quantity estimation.
- Participated in fabrication and welding for temporary check-in counter trolley systems.
- Maintained inspection records, maintenance logs, and documentation in compliance with safety and operational standards.

Industrial Trainee – Automation & Maintenance

**3 Months Internship | Brandix Apparel Solutions Essential**

2024

**Limited | Batticaloa**

- Hands-on experience in factory automation and maintenance in a garment plant.
- Assisted in automating Bar Tack, Flat Lock, Overlock machines for improved efficiency.
- Installed and wired PLCs, HMIs, sensors, and safety interlocks.
- Worked with electro-pneumatic systems, replaced solenoids (thread suction, foot lift, blowers).
- Repaired control boxes, fuses, and faulty wiring.
- Supported preventive maintenance and routine machine inspections.
- Supported preventive maintenance schedules and routine machine inspections to minimize downtime and ensure safe operation.

## PROJECTS

Final Year Research Project

**Comparative Study of Cognitive Load between Verbal and AR-Guided Training Methods for Sewing Machine Operators using XR NASA-TLX | SLIIT**

2025

- Conducted a comparative research study evaluating cognitive load between verbal-only and AR-guided training methods for sewing machine operators.
- Developed a Unity 3D + MRTK AR pre-prototype to deliver real-time visual guidance during sewing tasks.
- Designed and administered an XR NASA-TLX questionnaire and collected real survey data from sewing operators.
- Analyzed cognitive workload data to assess training effectiveness using human-centered design principles.

## ABOUT ME

Graduate Mechanical Engineering (Mechatronics) candidate with hands-on exposure to MEP systems and facilities maintenance in a regulated airport environment and corporate accommodation operations. Experienced in supporting HVAC inspections, preventive maintenance, fault reporting, maintenance documentation, and coordination with technicians/vendors. Familiar with MEP drawings and reporting, safety compliance, and maintaining accurate maintenance logs.

## EDUCATION

**BSc Engineering (Hons) in Mechanical Engineering (Mechatronics Specialisation)**

**Sri Lanka Institute of Information Technology (SLIIT)**

**2022 – 2026**

**G.C.E. Advanced Level Sammanthurai Central College**  
**2020**

**Information Communication Technology Technician (MERIT)**

**Technical College - Sammanthurai**  
**2018**

**G.C.E. Ordinary Level Dharussalam Maha Vidyalaya, Sammanthurai**  
**2017**

**AR-Based Training System for Sewing Machine Operators | SLIIT**

- Designed an AR-based real-time training system to support sewing machine operators and improve stitching accuracy.
- Developed AR environments using Unity 3D and Meta Quest 3, providing step-by-step visual guidance during training tasks.
- Implemented interactive AR overlays and task-based instructions to enhance learning efficiency.
- Logged performance using CSV/Google Sheets API.

**Self-Driving Car Simulation AI Project  
Udacity Simulator | Python, TensorFlow**

2025

- Developed and trained CNN models (Custom, ResNet50, VGG16) for predicting steering angles from camera input.
- Applied image preprocessing (resizing, normalization, RGB to YUV) and data augmentation (pan, zoom, brightness, flip).
- Built a complete training and testing pipeline using Python, TensorFlow, and Keras.
- Evaluated performance using loss curves and deployed models for real-time lane-following in the simulator.

**TECHNICAL SKILLS**

- **AutoCAD**
- **HVAC & Facilities Maintenance**
- **Mechanical diagnostics and repair**
- **Facility Management**
- **Electro-Mechanical Systems**
- **Pneumatic & Hydraulic Systems**
- **Work orders, Record keeping**
- **Solidworks**
- **BOQ & Material Quantity Support**

**SOFT SKILLS**

- **Team Work**
- **Quick Learning**
- **Problem Solving**
- **Creative Thinking**
- **Safety Awareness**
- **Communication**
- **Time Management**

**LANGUAGE**

- **English**
- **Tamil**
- **Sinhala**

**CERTIFICATIONS****B.Sc Eng (Hons) in Mechanical Engineering (Mechatronics) | SLIIT**

Credential ID: HNDPME0083

**Aerospace Engineering: Aircraft Fundamentals | Udemy**

Credential ID: UC-6db00d57-6b65-44d8-8f83-7903e2502b60

**Aerospace Engineering: Aircraft Systems and Avionics | Udemy**

Credential ID: UC-16e11b97-b6a7-477f-ac48-780b0696b70c

**Data Science and Machine Learning Basic to Advanced | Udemy**

Credential ID: UC-88b4af8f-e2ee-4a5a-8124-11f9797998d6

**Arduino UNO Bootcamp for Beginners | Udemy**

Credential ID: UC-9b9f137d-3351-4f51-9949-7be5a853f592

**Navigation Robot – NAVI-MATE**

2024

**Design for Mechatronics | Mechanical, Control & Simulation Integration**

- Designed and developed a remote-controlled navigation robot for indoor terrain and motion testing.
- Built the chassis using zinc-coated and galvanized materials to ensure durability and light weight.
- Integrated wiper motors, pulleys, and shock-absorbing wheel brackets for smooth motion.
- Implemented motor driver circuits and RC control system to enable manual navigation.
- Simulated movement patterns using Webots to visualize mechanical behavior prior to prototyping.

**Pick and Place Robot**

2023

**MDP II | Arduino IDE, MATLAB, ESP32**

- Designed and built a robotic arm with a basic gripper for automated pick-and-place operations.
- Programmed motion control using ESP32 with Arduino IDE and basic MATLAB logic integration.
- Focused on precise movement, coordination, and embedded control for real-time actuation.

**Maze-Following & RC Robot****MDP I | Arduino Mega 2560, C++ (Arduino IDE)**

2023

- Developed a maze-solving robot with line-following capability and remote-control functions.
- Used Arduino Mega 2560 to implement motor control, sensor integration, and navigation logic.
- Gained hands-on experience in embedded programming, sensor feedback, and robot mobility.

**Mechanical Fertilizer Distribution Machine****DNP Project | Mechanical Design Focus**

2022

- Designed a low-tech solid fertilizer machine with a sharp-tip shovel for direct root-level application.
- Enhanced agricultural efficiency by minimizing waste and improving fertilizer placement accuracy.
- Emphasized sustainability and mechanical precision without reliance on complex electronics.

**REFERENCES****Migara Liyanage PhD PEng**

Head/Professor

Department of Mechanical Engineering  
SLIIT | Malabe Campus**Phone:** +94117545319, +94778207378**Email:** migara.l@sliit.lk**Dr.Priyantha Bandara**

Senior Lecturer (High Grade)

Department of Mechanical Engineering  
SLIIT | Malabe Campus**Phone:** +94772219578**Email:** priyantha.b@sliit.lk