

Sanath Thilakarathna

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Professional Summary

Highly motivated and results-driven Mechatronics Engineer with extensive expertise in mechanical design, robotics, and R&D projects. Skilled in machine design, embedded systems development, desktop application development, and advanced manufacturing techniques. Experience in managing complex engineering projects, collaborating in dynamic team environments, and delivering innovative, cost-effective solutions to technical challenges. Adept at leveraging cutting-edge technologies to optimize processes and drive innovation, with a strong commitment to achieving excellence in every project. Continuously seeking opportunities to broaden my expertise, explore emerging technologies, and deepen my understanding of automation and control systems.

Education

University of Ruhuna, BSc. (Hons) in Mechanical and Manufacturing Engineering Feb 2019 – Feb 2024

- **GPA** : 3.16/4.0
- **Course Work** : Mechanical Design, Mechatronics, Industrial Automation, Thermodynamics, Control Engineering, Manufacturing Technologies, Maintenance Management, Lean Manufacturing, Engineering Mathematics

Experience

CINEC, Lecturer in Mechatronics Engineering Malabe, SL
April 2025 – Present

- Lecturing for Engineering Mathematics, Mechatronics.
- Research on MQL.

ALDTAN, Mechatronics Engineer / Projects Manager Kaluthara, SL
Sept 2024 – March 2025

- Develop NI-DAQ based software systems for research facilities.
- Developed web based softwares using Node.js and PHP/Laravel.
- Supervised CAD modeling and prototyping of new mechanical components.
- Led R&D projects focusing on innovation.

LE Robotics, Mechatronics Engineer Minuwangoda, SL
March 2024 – Sept 2024

- Developed firmware for scara robot end-effector controller.
- Developed a desktop application to configure and control robot arms.
- Improved SD card firmware to access both SD and SDHC cards.
- Developed complete solution for automating the potentiometer assembling QA process.
- Implemented DH-parameter model for a robot arm

Dilmah Ceylon Tea Company PLC, Mechatronics Engineer - Intern Paliyagoda, SL
Oct 2023 – Feb 2024

- Designed a carton lifting mechanism and supervised the manufacturing and assembling.
- Designed a velvet sticker paper punching machine.
- Attend to the KUKA and OMRON robot arm maintenance and configuration.

Trischel Fabric (MAS Holdings), MEP Engineer - Intern Thulhiriya, SL
March 2022 – July 2022

- Designed the thermic oil pipeline layout for installing the new Stenter machines.
- Created a mobile app on Microsoft Power Platform to calculate the plant's electricity demand to manage generator power during fuel crisis in SL.
- Developed a Teflon gasket cutter to reduce cutting time from 10 mins to 3 mins
- Developed a desktop application for preventive maintenance scheduling.

Key Skills

- **Embedded Systems Development:** ATmega Series, ESP32, STM32, Raspberry Pi
- **Automation & Control Systems:** PLCs (Omron, Siemens, Delta), MATLAB Simulink
- **PCB Design & Development:** KiCAD, Eagle, Proteus
- **Programming:** Python, MATLAB, C/C++, C#, ROS
- **CAD Modeling & Mechanical Design:** SolidWorks, Fusion 360, Inventor, AutoCAD, FreeCAD
- **Prototyping & Fabrication:** 3D Printing, CNC Machining, Welding, EDM
- **Simulation:** SolidWorks, ANSYS
- **Languages:** Fluent in Sinhala and English; Basic proficiency in Tamil and Japanese
- **Soft Skills:** Project Management, Technical Documentation

Certifications

- Project Management Specialization - University of Colorado Boulder – Coursera (2024) [View](#)
- Rapid Prototyping Using 3D Printing Specialization – Arizona State University – Coursera (2023) [View](#)
- Robotics : Aerial Robotics - University of Pennsylvania - Coursera (2023) [View](#)
- Become a PLC Developer Learning Path – LinkedIn Learning (2023) [View](#)
- Scientific Computing with Python – freeCodeCamp (2023) [View](#)
- Beginning C++ Programming - From Beginner to Beyond - Udemy (2020) [View](#)
- Introduction to Programming with MATLAB – Coursera (2020) [View](#)
- Certificate Course in Soft Skills – Career Guidance unit, UOR (2020) [View](#)

Projects

- Carton lifting machine design and fabrication - Dilmah Ceylon Tea Company. [View](#)
- Real-time Parameter Monitoring System for Latex – Final Year Project.
- Design and Fabrication of a Teflon Gasket Cutter - Trischel Fabric (Pvt) Ltd.
- Electricity Demand Calculator mobile app - Trischel Fabric (Pvt) Ltd.
- Mini Project on Designing and Controlling a 1 DOF Magnetic Levitation System.
- Arduino line following and remote control robots.
- Face detection and recognition project.
- Development of a low cost windmill water pump for remote use - Group Member.

Achievements

- Finalist at the IEEE R10 Robotics Competition 2022 at Chulalongkorn University, Bangkok. [View](#)
- IEEE Xstream 17.0 Programming Competition (594th global rank among 4231 teams) [View](#)
- Singapore Space Challenge (SSC) 2020 for designing ISRU-capable Lunar Rover (Participant) [View](#)
- Mexcellence 2019 – Robot Competition (Winners) [View](#)

Refrees

Eng. Darshana Alahakoon

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