MUHAMAD SYAFIQ BIN ISMAIL

Bachelor of Mechanical Engineering

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Professional Summary

Technical Support Engineer with 4 years of hands-on experience commissioning, troubleshooting and improving automated manufacturing equipment in Malaysia, Singapore and the Philippines, combined with industrial software development in C#/.NET and Python. Designed and built a PC-based HMI platform in C#/.NET (WPF) with PLC drivers for Modbus, Omron FINS, Siemens S7 and EtherNet/IP, OPC UA and MQTT, reusable production and troubleshooting modules, SQLite logging and 2,100+ automated tests. Brings a strong understanding of PLCs, robots, vision, motion and pneumatics from the machine side, and uses structured root cause analysis (fishbone, 5-Why, Pareto) to resolve software and system integration issues.

Core Technical Skills

HMI Development: PC-based HMI design (screen designer, runtime, operator display, alarms, trends, recipes, user roles); Weintek (EasyBuilder Pro) and Pro-face HMIs

Databases & Data: SQLite (alarm, data and per-part logging), CSV/Excel data processing, Google Sheets/Drive APIs

PLC & Industrial Communication: Omron (CX-Programmer), Mitsubishi, Delta; Modbus TCP/RTU, Omron FINS, Siemens S7, EtherNet/IP (CIP), OPC UA, MQTT

Vision, Robotics & Motion: Keyence, HIK/Hikrobot and AI vision; TM, Rokae, Aubo, JAKA cobots, KUKA SCARA, Janome robots; servo tuning, pneumatics

Engineering Methods: Root cause analysis (fishbone, 5-Why, Pareto), commissioning and production start-up, technical documentation, Cpk, Gauge R&R, Minitab

Work Experience

Technical Support Engineer, iRadar Automation Sdn Bhd *October 2022 - Current*

- Develop industrial software for the company and its machines: a PC-based HMI platform in C#/.NET, a reusable PLC communication library, and data tools that turn production tester datalogs into weekly yield reports.
- Install, commission and support production start-up of automated equipment with customer production and engineering teams in Malaysia, Singapore and the Philippines, meeting delivery schedules and cycle time targets.
- Troubleshoot and resolve software, PLC/HMI and system integration issues (alarm interpretation, I/O checking, signal tracing, parameter/recipe verification), debugging machine programs to restore reliable machine performance.
- Integrate and tune machine subsystems with mechanical, electrical and controls teams: calibrate Keyence and AI vision systems, teach cobot and robot points (TM, Rokae, JAKA, Aubo, KUKA SCARA), and tune servo and pneumatic systems.
- Investigate recurring false rejects, alignment errors and cycle interruptions with structured RCA (fishbone, 5-Why) and recommend corrective and preventive actions that improve reliability and maintainability.
- Produce service reports, troubleshooting guides and relocation/re-commissioning reports; train customers and production staff on operation and safety, and escalate design issues to engineering and product development.

Trainee, Quality Assurance Department, GP Batteries *July 2021 - October 2021*

- Performed process capability (Cpk) analysis using Minitab and spreadsheets and built an automated Cpk/X-S chart spreadsheet template for the moulding process.
- Conducted incoming, in-process and outgoing quality control against operation standards, supporting documentation accuracy and compliance.

Relevant Projects

HMI Designer, *PC-Based HMI Platform (C#/.NET, WPF)*

- Developed a Windows HMI platform with a screen designer, a runtime that runs as a Windows service and an operator display, with PLC drivers for Modbus TCP/RTU, Omron FINS, Siemens S7 and EtherNet/IP, plus OPC UA, MQTT, alarms, trends, recipes, user roles and SQLite logging.
- Designed reusable runtime modules that work on any machine: Production Monitor (cycle time, rejects, per-part log), Troubleshooting (live PLC address watch and step trace), Machine State, Downtime, Traceability and Teach Positions, backed by a standard PLC address map and reference machine project for future projects.
- Split the PLC drivers into a reusable communication library with a virtual PLC for testing; verified the platform with 2,100+ automated tests and on a real Omron CP2E PLC, and released it with a Windows installer and user manual.

Gel Pad Packaging Machines, *Commissioning & Yield Improvement* *Singapore*

- Commissioned gel pad packaging machines across 2 recipes, tuning mechanical components, Keyence vision and KUKA SCARA pick and place.
- Led root cause analysis on 20+ system issues (KUKA integration, vision calibration, pneumatic control, program sequencing) and documented each fix, improving finished good rate from 72.7% to 84%.

Dyson Airwrap 30L/40L Assembly, *Automation Installation & Commissioning* *Malaysia, Philippines*

- Installed and commissioned 2 automation machines within established timelines; resolved software issues and achieved the 14 second target cycle time through continuous improvement.
- Built Pareto charts and Google Sheets dashboards to track downtime and output, and authored troubleshooting documentation that reduced recurring downtime.

Education

Universiti Teknologi Malaysia *2018 - 2022*

Bachelor of Mechanical Engineering, CGPA: 3.58

Reference

Mr Mohamad Syahmi Bin Kamalruzama

Team Lead Support, iRadar Automation Sdn. Bhd.