Madihah binti Mohd Firdaus

Ampang, KL
+60126617060
dihah.work@gmail.com
www.linkedin.com/in/madihahmf/

Graduate Engineer with a Bachelor's Degree in Mechatronics Engineering (Hons.), specializing in mechanical systems, robotics, electronics, and automation. Proficient in AutoCAD, SOLIDWORKS, Inventor, Fusion 360, and Revit, with additional skills in Arduino prototyping, PLC programming, and C++. Demonstrated attention to detail and adaptability in site inspections, QA/QC reporting, and technical documentation. Seeking a Junior CAD Engineer role to contribute precise drafting, design validation, and engineering documentation expertise.

SKILLS & KNOWLEDGE

- Autodesk AutoCAD (2D Drafting & 3D Modelling)
- 3D Modelling Software (SOLIDWORKS, Inventor, Fusion 360, Revit)
- PLC Programming with FluidSim
- CoppeliaSim
- Arduino Programming, Circuit Design, Simulation & Prototyping (Tinkercad, Proteus)
- C++ Programming
- QA/QC Inspection & Reporting
- Microsoft Office: Word, PowerPoint & Excel

EDUCATION

Bachelor of Mechatronics Engineering (Hons.) **Oct 2020 to Feb 2025**

Universiti Teknikal Malaysia Melaka (UTeM), Malacca

Final Year Project: Smart Detection System for Unattended Children in Vehicles.

- Designed and developed a child detection system using Arduino, integrating pressure and motion sensors with IoT-enabled alarm and SMS notifications for real-time alerts; created 3D CAD housing in Fusion 360 and simulated circuit wiring in Tinkercad.
- Validated system performance through prototyping and multi-sensor testing, achieving over 90% detection accuracy with reliable real-time alerts, demonstrating effectiveness in enhancing child safety in vehicles.

Diploma in Mechatronics Engineering **Jun 2016 to Nov 2019**

Universiti Teknologi Malaysia Kuala Lumpur (UTM KL), Kuala Lumpur

Final Year Project: Smart Watch for Alzheimer's Patients.

- Collaborated in a team to design and prototype a smartwatch using Arduino MKR1000, accelerometer, barometric sensor, and Nokia LCD to enable fall detection, SOS alerts, and caregiver notifications via IoT.
- Designed device housing in AutoCAD and validated system performance through prototyping and sensor testing, achieving over 85% fall detection accuracy, ensuring reliability, usability, and patient safety for Alzheimer's patients.

PROFESSIONAL CERTIFICATION

SOLIDWORKS 3D CAD for Education Specialization – Coursera **2026**

SOLIDWORKS 2024 Essential Training – LinkedIn Learning **2026**

Completed training in 2D sketching and 3D part and assembly modelling using SOLIDWORKS, covering extrusion, revolved and cut features, sweeps, patterns, and reference geometry features; developed skills in feature application and assembly design through guided modelling exercises by creating 3D models, assemblies, detailed drawings, and bills of materials (BOM) as part of course-based practical assignments.

Autodesk Inventor 2022 Essential Training – LinkedIn Learning **2026**

Created 2D sketches and 3D parts using extrusion, revolve, and loft features; built assemblies to test part interactions for proper fit and function, and produced technical drawings with annotations and visual styles to communicate design intent and support manufacturing documentation.

Autodesk Revit 2025 – LinkedIn Learning **2026**

Developed BIM models by setting up templates, levels, grids, and dimensions; modelled architectural components and produced project views, construction drawings, and coordinated documentation while integrating external CAD files to support multidisciplinary design workflow.

Hydraulics Technology – Bosch Rexroth **Level 1** **2023**

Gained fundamental understanding of hydraulic systems, reading circuit diagrams with DIN ISO 1219 symbols, and performing hands-on exercises with the WS290 Hydraulic Training System (power unit analysis, pump characteristics, pressure intensification).

WORKING EXPERIENCE

Adaptasi Masa Sdn Bhd **Jul 2023 – Sep 2023**

Electrical Engineering Trainee (Internship)

- Applied AutoCAD extensively to review and verify electrical floor plans, trunking layouts, and single-line diagrams for MRSM Dungun and ILP Selandar projects, ensuring compliance with JKR (Public Works Department) specifications.
- Conducted quantity verification for trunking, conduit, and electrical accessories across school blocks, staff housing, cafeteria, surau, and academic facilities, reconciling Excel records with AutoCAD M&E drawings.
- Assisted engineers in QA/QC documentation and tender preparation, reviewing contractor submissions and technical reports for extra-low-voltage systems (CCTV, PA, Audio Visual) to align design drawings with project scope.

Esha Engineering Consultants Sdn Bhd **Jun 2019 – Nov 2019**

Electrical Engineering Trainee (Internship)

- Utilized AutoCAD to create and modify 2D AutoCAD M&E layouts (wiring diagrams, cable routes, DB boxes, control panels, fibre cabling) from engineer sketches and site data; verified compliance with fire safety authority (BOMBA) and national electrical utility (TNB) standards.
- Conducted QA/QC checks for a children's hospital project (Hospital Pakar Kanak-Kanak UKM, 10+ floors LG2–L9, rooftop, elevated car park), ensuring installations matched AutoCAD drawings and room data sheets; issued Engineer Instructions (EI) and Non-Compliance Records (NCR) to resolve discrepancies.
- Documented findings in Excel and prepared structured QA/QC reports during weekly site walks with engineers and contractors to support project coordination and compliance.

EXTRACURRICULAR INVOLVEMENTS & LEADERSHIP EXPERIENCES

Research and Innovation Club (RIC), UTM KL **Oct 2016 – Sept 2017**

- Served as the Secretary on the Executive Committee, managing documentation and coordinating club activities as part of a student leadership team. Actively involved in organizing robotics and innovation programs, including UTM Social Innovation 2017.

Facilitator & Trainer, UTM Social Innovation 2017 **Apr 2017 – May 2017**

- As a member of the RIC Executive Committee, we conducted workshops for secondary school students, teaching Arduino programming, circuitry, and prototyping, fostering STEM interest and hands-on technical skills.
- Organized and participated in outreach programs at SMK Undang Jelebu and SMK DUMA, mentoring students, conducting post-mortems after each session, brainstorming strategies to improve engagement, and guide them step-by-step in Arduino coding, wiring circuits, and mini projects.

Volunteer, Al-Amin Robotic Challenge 2016 (Asian Championship) **Jul 2016**

- Volunteered as a facilitator/referee assistant with fellow coursemates under UTM program at the Al-Amin Robotic Challenge 2016 (Asian Championship), contributing to event operations and earning certificates of appreciation for active involvement and leadership.

LANGUAGES

Malay (Native) **English (Proficient)**

REFERENCES

Available upon request.