

MOHAMED AZIMAL AZIMYDEEN

AI Automation & Control Systems Engineer

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Portfolio: <https://mohamedazimal.vercel.app/>

SUMMARY

Control Engineer turned AI Automation Developer with 7 years of experience in system reliability, logic design, and process optimization. Expert in building secure, self-healing workflows using Python, n8n, and LLMs. Specializes in translating complex business requirements into fault-tolerant automations, bridging the gap between industrial rigor and modern AI capabilities. Proven track record of reducing manual operational load by 90% through intelligent system architecture.

KEY SKILLS

- Automation Tools: n8n, Google Sheets, Apps Script
- Programming: Python, JavaScript, C#, C++
- AI & LLMs: · RAG Pipelines (LangChain, ChromaDB), OpenAI API, Prompt Engineering, Vector Search, Local LLMs (Ollama).
- Integrations: REST APIs, Webhooks, Google APIs, CRM-style data flows
- Industrial Systems: TwinCAT 3, Allen-Bradley, Rockwell PLC, Weintek HMI, SCADA

AI PROJECT HIGHLIGHTS

DocMind – RAG-Based Document Q&A System

Role: AI Automation Engineer

Stack: Python, FastAPI, LangChain, ChromaDB, OpenAI API

- Engineered a production-grade RAG system with strict user isolation (JWT auth + vector metadata filtering) to ensure data privacy.
- Implemented document ingestion, embeddings, vector search, and context-aware LLM responses.
- Designed a secure backend API demonstrating real-world AI knowledge assistant workflows.

AI-Powered Lead Generation & Email Enrichment System (n8n)

Role: AI Automation Engineer

Stack: n8n, Apify, Google Maps, Google Sheets, OpenAI API

- Built an end-to-end lead automation pipeline collecting client requirements via form and scraping targeted businesses from Google Maps.
- De-duplicated and enriched leads by extracting emails from company websites.
- Applied AI-based lead classification and quality scoring.
- Dynamically generated Google Sheets and emailed summary reports to clients.
- Reduced manual scraping and list building by 90%+ while improving data consistency.

AI Voice Agent for Salon – Booking, Rescheduling & FAQs

Role: AI Agent Developer

Stack: Retell AI, Make.com, Airtable

- Designed a conversational voice AI agent handling appointment booking, rescheduling, and FAQs.
- Integrated real-time availability and updates via Airtable.
- Implemented escalation to human staff when confidence thresholds were low.
- Delivered a reusable solution for service-based businesses.

AI-Generated YouTube Content Automation (n8n)

Role: Automation Developer

Stack: n8n, OpenAI, Whisper, FFmpeg, YouTube API

- Built a fully automated pipeline to generate scripts, narrations, thumbnails, subtitles, and publish videos.
- Orchestrated multi-step workflows with AI text generation, TTS, video rendering, and metadata management.
- Saved 6+ hours per video for content creators through hands-free publishing.

Skin Cancer Detection App

- Built an Android app in Flutter integrated with TensorFlow Lite (TFLite) to detect skin lesions (benign / malignant) from images.
- After inference, app sends automated email results to users via Firebase backend.
- Tools & Tech: Flutter, TFLite, Firebase (Functions / Authentication / Email service).

Real-Time Age & Gender Estimation App

- Created a real-time machine learning app (mobile or edge) that estimates age and gender from camera input using a TFLite model.
- The inference runs locally on-device to enable low-latency results.
- Tools & Tech: TFLite, camera APIs, Flutter / Android native UI.

PROFESSIONAL EXPERIENCE

Senior Software Engineer

May 2024 - Oct 2025

Sys-Mac Automation Engineering Pte Ltd, Singapore

- Integrated industrial control systems with cloud APIs and Google Sheets.
- Provided real-time automation support for machine deployments.

PLC Programmer

Aug 2021 – May 2024

PBA Group – Robotics & Automation, Singapore

- Co-authored, tested, and optimized PLC code for an automated production line, consistently maintaining a rejection rate of < 2%, while ensuring compliance with all applicable safety requirements.
- Improved data transfer efficiency by 30% during Site Acceptance Testing for a \$2M NPD project.

Software Engineer

Sep 2020 – Aug 2021

Shimano Singapore Pte Ltd

- Developed PLC, Robot, HMI programs; raised OEE to 85% from 65% in 3 automation cells
- Standardized data collection for 30 OT systems, utilized AGV and AMR robots to save 35% storage space

Software Engineer

Sys-Mac Automation Engineering Pte Ltd

Jun 2019 - Sep 2020

- Formulated logic for PLC, PC, and Robotics to drive Special Purpose Machines (SPM) installation at the customer's site within stipulated timelines.

Robot Application Engineer

FANUC India Pvt Ltd

Dec 2016 - Feb 2019

- Responsible for programming Handling, Welding and Vision robotics application.
- Cycle time and Process optimisation.

EDUCATION & PROFESSIONAL QUALIFICATIONS

- Bachelor of Engineering – Mechatronics
- Kongu Engineering College, Anna University, India

CERTIFICATIONS

- “Mastering C++ Programming” – Codedamn (Sep 2023)
- OpenAI API Projects – Personal GitHub demos

EXTRAS

- Balancing professional commitments while undergoing medical treatment and recovery.