NG SHU JIE

Final-Year Computer Engineering Student | Embedded Systems & IoT Enthusiast

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SUMMARY

Final-year Computer Engineering student at UTAR with strong foundation in embedded system development and IoT integration. Skilled in real-time sensor networks, protocol-level communication, and interactive GUI design. Proficient in Python, C/C++ and embedded platforms. Seeking a 3-month internship (27 Oct 2025 – 24 Jan 2026) to contribute to embedded systems or IoT development while deepening expertise in full-cycle embedded design.

SKILLS AND TOOLS

Technical Skills

- **Languages**: Python, C/C++, HTML/CSS/JavaScript, MATLAB, Assembly, SystemVerilog
- **Concepts**: Embedded Systems, IoT Integration, Digital Signal Processing, Machine Learning, Computer Architecture
- **OS:** Windows (XP–11), Ubuntu Linux

Tools & Platforms

- **Software**: ArduinoIDE, Keil uVision3, MATLAB, Vision Studio Code, STLink
- **Embedded Platforms:** Raspberry Pi, Arduino Uno R4 WiFi, STM32F429i-DISC1
- **Communication Protocols**: I2C, UART, GPIO, MQTT, Telegram Bot, Blynk IoT Platform

Languages

- Mandarin Chinese (Native), English (Fluent), Malay (Intermediate), Japanese (Basic)

PROJECTS

S.M.A.R.T Home System Design and Integration

Team-based Project (2 Members) | Raspberry Pi, Python, MQTT, Telegram Bot, Blynk IoT Nov 2024 - Dec 2024

- Built a dual-Raspberry Pi IoT system for home monitoring and control
- Integrated DHT22, MPU6050, and LDR sensors via GPIO and ADC
- Enabled real-time data transmission using MQTT and mobile control via Telegram Bot
- Visualized sensor data through Blynk IoT platform for remote access
- Designed a dynamic GUI for local sensor data monitoring on Raspberry Pi
- Delivered a full-stack solution combining hardware, cloud, and mobile interfaces

Room Monitoring and Automation System

Team-based Project (2 Members) | STM32F429i-DISC1, C Language, STLink Aug 2024 - Sep 2024

- Developed an embedded system to monitor temperature and light levels
- Used ADC for LDR input and displayed adaptive feedback on onboard LCD
- Designed a secure login interface with animated graphics and button-sequence access
- Demonstrated complete embedded workflow: sensor input, data processing, and GUI output

EDUCATION

Universiti Tunku Abdul Rahman - Kampar, Perak, Malaysia

Bachelor of Information Technology (Honours) Computer Engineering - 3.47 Jun 2023 - Jun 2026

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Finance Leader – "Start Managing Your Personal Finance" Talk (Nov 2024)

- Spearheaded planning and budgeting for a university-wide financial literacy event
- Coordinated with external financial professionals to deliver talks on investment, budgeting, and career finance
- Managed logistics, venue setup, and promotional outreach, attracting over 70 student attendees
- Strengthened team collaboration and public engagement through effective communication and leadership
- Enhanced stakeholder coordination and time management under tight planning timelines