Agung Wibisono

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SUMMARY

- Highly proficient with Real-time Embedded software (firmware)
- A Versatilist vibe coder software developer from full stack into embedded software.
- Have a solid experience with Embedded C/C++ and python
- Have extensive knowledge in various MCU, SoC and FPGA
- Experience with IoT protocol, Embedded Linux, Bare Metal state machine, RTOS (FreeRTOS/Zephyr), FPGA (VHDL), Control System, Schematic & PCB design.
- Have more than 10 years of experience in Real-Time Embedded Software development.
- Bachelor of Engineering in Electrical Engineering from University of Indonesia (3.41/4.00)

SKILLS

- **Programming Language :** C/C++ (Advanced), Assembly, Python, Javascript, Typescript, C#, Java, and HTML.
- **Software & Application :** RTOS or Baremetal (Advanced), MCU bootloader, Embedded Linux, low-level programming, Embedded Software development life cycle (ESDLC), IAR EWARM, STM32CubeIDE, Xilinx Vivado, Ms. Visual Studio C#/C++, Matlab, TCP/IP stack (LwIP), IoT protocol (CoAP, MQTT, BLE, WiFi, Lora), GIT / SVN.
- **Hardware :** Schematic & PCB design with Altium Designer, VHDL (Xilinx, Lattice FPGA and CPLD).
- **Peripheral :** USB, I2C, UART, SPI, Ethernet, WIFI, Bluetooth, 3G/GSM , CAN.
- **Others :** Vibe Coding, AI Tools, Engineering equipment (Oscilloscope, logic analyzer, frequency generator), Robotics, Control System, DSP, OpenCV.

WORK EXPERIENCE

Embedded Engineer, Dec 2024 – Now
Stone Devices Sdn Bhd, Johor, Malaysia

- Develop access control device with SoC (ARM + NFC)
- Have gained deep knowledge in NFC technology (Mifare, ISO14443A/B, ISO15693) and Cybersecurity
- Develop Apps in Android (Kotlin) and IoS (Swift) for NFC testing.
- Develop MES/MIS for smartcard manufacturing process (tech stack : React, Fastify, Redis, PostgreSQL).
- Develop Intelligent nfc tester machine, based on windows IOT (tech stack : React, C++ Websocket, SQLite).

Embedded System Consultant (Freelancer), Feb 2020 – Nov 2023

- Conducting R&D for an IoT wireless sensor based on LoRaWAN for wind turbines. This project using: STM32 SoC, an external ADC, and a Lattice FPGA.
- Managed & developed an IoT project for smart office using ESP32 and Embedded Linux.

- Developed hardware & firmware for IoT low power sensor device using Sigfox protocol and STM32.
- Developed EDC with STM32, WiFi & Bluetooth, LCD-TFT, keypad, and thermal printer.
- Have experience working remotely with minimum supervision and different time zones.

Head of R&D / Senior Firmware Engineer, Feb 2017 – Jan 2020
PT Prasimax Inovasi Teknologi, Depok, Indonesia
- Appointed as Senior Embedded Engineer to manage Mobile Smart Printer project (ARM-MCU, NFC controller, Secure Access Module, Bluetooth classic, Thermal printer).
- Mentor and train newly recruited engineers (Firmware & Hardware Engineer).
- Manage legacy Embedded Software code and Hardware Electronic Design.
- Successfully developed and managed firmware and hardware for mass production Tapping Box product (shipped to Argentina) and successfully managed the project for developing the Mobile Smart Printer product.

R&D Firmware Engineer, Dec 2015-Dec 2016 (1 years and 1 month)
Kulim Smart Technologies sdn bhd, Johor, Malaysia
- Conducted research and development of a challenging project, to develop Industrial automation application, which is 3" Pipeline Inspection Gauge (PIG) for NDT inspection.
- Successfully designed and implemented electronics and embedded software in C/C++, and VHDL for FPGA & CPLD.
- Able to work under pressure and within a tight deadline.
- Have professional experience working with a multicultural environment.

R&D Embedded System Engineer, Oct 2011-Sept 2015 (4 years)
PT Prasimax Inovasi Teknologi, Depok, Indonesia
- Successfully developed innovative Embedded System products : Tapping Box for cash register/POS and Passive POI device.
- Lead Engineer on developing Tapping Box for cash register/Point-of-sales system. Developed firmware in C with RTOS to ensure its deterministic capturing data. It is heterogeneous computing which consists of ARM-MCU and FPGA.
- Developed Embedded application for Passive POI device with LCD-TFT capacitive touchscreen equipped with QR-code generator Algorithm and NFC reader.

Research Assistant, Aug 2010 - Jan 2012 (1 year and 3 months)
ACONICS RG, Electrical Eng Dept of University of Indonesia, Indonesia
   Developed motor control for CNC machine using Xilinx FPGA board with VHDL and EMC2

EDUCATION
   Bachelor of Engineering in Electrical Engineering (Control Engineering)
   University of Indonesia, Indonesia, Aug 2007 – January 2012 (GPA: 3.41/4.00)
PROFICIENCIES
         English, Indonesian (Native), Malaysian