Muhamad Andung Muntaha

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Jakarta, Indonesia
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A T-shaped software engineer who has breadth knowledge in IT and recently decided to pursue the depth in embedded world. A lifetime learner aiming to be an M-Shaped engineer and keen to develop another vertical knowledge in AI, cloud technology, DevOps, and network/application security. Always carries a *can do* attitude, who faces challenges with courage, adapts quickly, and strives to give high-impact contribution to the organization/customer.

Work Experience

- **SoleMetrix** — Singapore (Remote)
  Embedded Software Engineer — June 2020 - present
  - Designing and implementing a Zephyr RTOS-based embedded software for a sport technology wearable device.
  - Implementing a ranging protocol using ultra-wideband with 5cm precision.
  - Implementing a compression algorithm to stream sensor data efficiently to the host computer.
  - Defining and implementing a BLE peripheral and its characteristics as the device's API.
  - Implementing device drivers to interface with external modules (EEPROM, IMU, and UWB).
  - Implementing an automated hardware-in-the-loop testing environment.

- **Nodeflux** — Jakarta, Indonesia
  Lead Embedded Software Engineer — August 2019 - May 2020
  - Designed and implemented an embedded linux architecture, OTA software update strategy, and remote shell mechanism for an edge computing platform.
  - Built a custom embedded linux operating system using Yocto build system.
  - Developed machine learning applications using CPU only and GPU accelerator.
  - Leading a team of three software engineers.

- **Scania RnD** — Stockholm, Sweden
  Thesis Research in Real-Time Systems — January 2019 - June 2019
  - Reduced hardware-in-the-loop real-time simulator troubleshooting time by developing a centralized logging & monitoring system.
  - Improved the system development process by introducing a formal schedulability analysis method based on time demand analysis to validate the system's timing requirement.

- **Freelance** — Stockholm, Sweden
  Embedded Software Developer — August 2018 - December 2018
  - Developed a cellular network automatic testing device, developed using Qt on embedded linux.
  - Developed bike sharing IoT hardware prototypes by designing and implementing the software in Arm MbedOS while satisfying the system's low-power requirement and addressing an unreliable network constraint.

- **KTH MIST Student Satellite Project** — Stockholm, Sweden
  Embedded Software Developer — March 2018 - December 2018
  - Achieved a significant milestone in the end-to-end satellite communication by implementing a MISRA-C compliance radio communication API.
  - Minimized the functional testing time by introducing a radio link communication simulator.
  - Introduced a proof-of-concept in processing experiment data by extending the ground station software.

- **Schlumberger** — Jakarta, Indonesia
  IT Engineer & Application Developer — November 2013 - June 2017
  - Booked $5.5M soft cost savings by introducing 15 Sharepoint applications, 2 web applications, and 2 mobile applications which transformed internal business processes to reduce non-productive time, prevent risks, and increase revenue.
  - Awarded as the winner of the transformation award 2017 by developing a web and mobile application to increase Account Receivable turnover ratio.
  - Awarded as the best IT engineer based on user satisfaction feedbacks as well as excellent performance in maintaining IT services quality and availability.

Education

- **KTH Royal Institute of Technology** Stockholm, Sweden
  M.Sc. Embedded Systems, minor in Embedded Software August 2017 - June 2019
    - Related courses: Embedded Systems, Embedded Software, Software Reliability, Compiler and Execution Environment, Networked Systems Security, and Modern Method in Software Engineering.
    - Thesis: Non-intrusive Logging and Monitoring System of A Parameterized Hardware-in-the-loop Real-Time Simulator.
- **10 Nopember Institute of Technology** Surabaya, Indonesia
  B.Eng. Electrical Engineering, minor in Computer Engineering August 2009 - July 2013
    - Related courses: Embedded Systems, Computer Architecture, Data Communication, Computer Networks, Computer Vision, Algorithm & Data Structure, and Artificial Intelligence.
    - Thesis: Self-localization of Humanoid Robot Inside Soccer Field Using Triangulation and Particle Filter Methods.

Skills

- **Programming Language:** C, C++, C#, Go, Python, JavaScript, Shell Script
- **Real-Time OS:** Zephyr, ARM MbedOS, MicroC/OS-II, FreeRTOS, RT-Linux
- **Web Technology:** VueJs, .Net Core, ELK Stack, Socket.IO
- **Cross Platform:** Qt, Xamarin
- **Others:** Backend and network programming, Embedded Linux, IT Operations, IT Security, Cloud Technology, Container Orchestration, Networking.

Industry Certifications

- Cisco Certified Network Associate Routing and Switching (CCNA) - 2016
- ITIL Foundation - IT Service Management - 2015
- Microsoft Certified IT Professional - 2015
- ISC2 System Security Certified Practitioner (SSCP) - 2014

Courses

- Beginning Test Driven Development in C++ - Udemy, 2018
- C++ for Programmers - Udacity, 2018
- ITIL Foundation in IT Service Management - Jakarta, 2016
- Schlumberger Route 45 Leading Change Agent Training - Jakarta, 2016
- Cross Platform Mobile Application Development Using Xamarin - Jakarta, 2015
- Configuring Cisco Switch and Router - Jakarta, 2014
- Value Creation for the Business through IT Enablement - Paris, 2014

Honors & Awards

- Awardee of LPDP Scholarship PK87 2017
- Jakarta Fishackathon Winner 2017
- Schlumberger Indonesia transformation award 2017
- Schlumberger Indonesia Best IT Engineer 2016
- Runner up Indonesian Intelligence Robot Contest 2012