VU TUNG MINH

OS & Middleware Engineer

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C++/Linux middleware engineer with Junior-level experience at FPT Software, building GStreamer camera pipelines and IPC on Rockchip SoCs.

WORK EXPERIENCE

Intern, AI Taskforce Nov 2026 – Present
Viettel Semiconductor (Viettel Semi) · Ho Chi Minh City, Vietnam

Junior OS & Middleware Engineer Jul 2024 – Apr 2025
FPT Software (akaCam) · Quy Nhon / Ho Chi Minh City, Vietnam

- Migrated camera processing from Python/OpenCV to C++/GStreamer; built `akacam-gst` plugins for Rockchip hardware acceleration and frame sharing via shared memory and ZeroMQ.
- Benchmarked 3 pipelines on 4K60 input converted to 720p RGB. The custom RGA pipeline reached ∼60 FPS at ∼24.5% CPU, versus ∼32 FPS at ∼44.6% CPU with default RGA.
- Validated 6 concurrent 1080p25 camera inputs converted to 720p25 output. Wrote and presented the evaluation report; the proposed implementation was approved for production deployment.

OS & Middleware Engineer Intern Sep 2023 – Jun 2024
FPT Software (QAI) · Quy Nhon, Vietnam (Remote)

- Conducted OS and middleware research under senior mentorship during the final year of high school.

Intern Jun 2023 – Sep 2023
FabLab Saigon · Ho Chi Minh City, Vietnam

TECHNICAL SKILLS

Languages: C, C++, Python, ARM/x86 Assembly, Verilog
Embedded & Systems: Linux, POSIX IPC, GStreamer, Rockchip RGA, STM32, UART, SPI, I2C
Tools & Performance: Git, Bash, CMake, Meson, Docker, Nsight, PyTorch Profiler, Triton, vLLM

SELECTED PROJECTS

Embedded & Computer Systems 2021 – 2022
Self-directed / Academic · C, Assembly, HDL

- Wrote register-level UART, SPI, and I2C drivers for STM32 (ARM Cortex-M) without vendor HAL.
- Built the Nand2Tetris computer in HDL, plus an assembler, VM translator, compiler, and OS library. Code

LLM Inference Performance (Viettel AI Race) Jul 2026
Solo Competitor · Python, Triton, vLLM, Docker

- Profiled inference on an H200 MIG slice to identify memory traffic and host overhead; wrote fused Triton kernels to reduce GPU memory round-trips and kernel launches.
- Cut Docker builds from 5 min to 15 s; tuned TCMalloc and integrated the C++ `fastokens` tokenizer. Code and report

EDUCATION

B.Eng. in Integrated Circuit Design 2024 – Present
FPT University · Ho Chi Minh City, Vietnam; GPA: 3.25/4.0

Embedded Developer Program (100% Scholarship) Jun 2023 – Sep 2023
FPT Software Academy · Ho Chi Minh City, Vietnam

FPT Software Computer Talents Club (FCT Club) 2020 – 2023
FPT Software · Outstanding Learner, Term 2 (2022–2023)

LEADERSHIP & TECHNICAL MENTORING

Co-founder Nov 2022 – Present
Science Lab · Phu Yen, Vietnam

- Runs Science Lab's robotics teams, mobile STEM classes, and annual camps (Hoa Hoc Tro profile).
- Mobile STEM classes reached 4,000+ student visits across five schools; received the Compass Award at FIRST Tech Challenge Vietnam 2025 with Science Lab team #28344.