

ROBBY ULUNG PAMBUDI

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Software Engineer with 4+ years of experience building scalable backend, AI-driven, and cloud-native applications, including Retrieval-Augmented Generation (RAG) systems, LLM-powered applications, and distributed architectures with FastAPI, LangChain, ChromaDB, and Docker. Led cross-functional teams, optimized system performance by up to 60%, and delivered production systems serving over 250,000 users in SPMB Jatim 2024–2025.

EXPERIENCE

Techflouu

Aug 2025 – Present

Fullstack Engineer, Full Time (Dec 2025 – Present) · Fullstack Developer, Internship (Aug – Dec 2025)

Singapore, Remote

- Designed and implemented a scalable multi-tenant architecture supporting 10+ tenants with isolated data and configuration.
- Optimized multi-tenant queries and data access patterns, reducing response time by up to 40% and improving system reliability.
- Refactored over 20 legacy modules to reduce technical debt, and presented technical solutions and project progress to clients to ensure alignment with business requirements.

SPMB Jawa Timur

Jan 2024 – Jul 2025

Fullstack Developer – Full Time

Surabaya, Remote

- Led the development and continuous improvement of core features such as enrollment, re-enrollment, and score reporting for a system used by over 250k students across East Java.
- Optimized frontend query performance, improving loading and interaction times by 60%, enhancing user experience across both student and administrative portals.

Filin Movie

Jul 2023 – Feb 2024

Frontend Developer – Intern

Surabaya, Remote

- Designed a solution to protect movies from illegal downloading and screen sharing using DRM (Digital Rights Management) that resulted in an 80% reduction in piracy tested using 8 different browsers.

Aseven Indonesia

Dec 2022 – Jul 2023

Frontend Developer – Freelance

Surabaya, Remote

- Developed core features for *Spectra*, a web-based platform for internal operations of PLN, Indonesia's state-owned electricity company, implementing 13 out of 30+ key pages (ULP, UP3, Employee, and Parent dashboards).

PROJECTS & RESEARCH

RAGForge: Retrieval-Augmented Generation Template | Python, FastAPI, LangChain, ChromaDB, Docker Feb – Jul 2025

- A production-ready template for building RAG systems, designed for scalability and maintainability using dependency injection and Docker-based deployment.

DiLLeMA: Distributed LLM Computing Framework | Python, Ray, vLLM

Feb – Jul 2025

- Final-year thesis project: an extensible framework for distributed LLM inference over GPU clusters, using Ray for workload distribution and vLLM as the core inference engine, with modular RAG pipeline integration for high-throughput, scalable deployments.

DigiFlood: Flood Monitoring & Early Warning System | Lead Engineer, Research Team

Feb 2026 – Present

- Led end-to-end development and coordinated cross-functional teams across backend, frontend, and mobile platforms; integrated YOLO-based object detection into drone platforms, aligning AI models, hardware integration, and operational requirements for deployment.

Indonesian Sustainable Palm Oil (ISPO) Certification System | Software Engineer, Research Team

Mar – Jul 2025

- Designed and developed a digital certification system for 5k+ users across farmer groups, cooperatives (KUD), Internal Control Systems (ICS), survey institutions, and government offices, aligning ISPO standards with 10+ regulatory references.

PUBLICATIONS

- Pambudi, R., *et al.*, “DiLLeMa: An extensible and scalable framework for distributed large language models (LLMs) inference on multi-GPU clusters,” *SoftwareX*, Elsevier, 2026, doi:10.1016/j.softx.2026.102537.
- Pambudi, R., *et al.*, “A Novel Approach to Image Steganography Using Pixel Differencing for Better Data Hiding,” *Proc. IEEE ONCON*, Beijing, China, Dec. 2024, pp. 123–130, doi:10.1109/ONCON62778.2024.10931677.

SKILLS

Languages: Python, JavaScript, TypeScript, PHP, C, C++, Bash, SQL, NoSQL, HTML, CSS

AI / LLM: RAG systems, LangChain, ChromaDB, vLLM, Ray, distributed LLM inference, YOLO

Frameworks & Tools: FastAPI, NextJS, ReactJS, NodeJS, ExpressJS, D3.js, Linux, Docker, Git, GitHub, NGINX, PostgreSQL, MySQL, MongoDB

EDUCATION

Sepuluh Nopember Institute of Technology (ITS), Surabaya

Feb 2026 – Present

Master of Informatics — Research Assistant (Distributed Systems); Teaching Assistant (Microservices and Application Development)

Sepuluh Nopember Institute of Technology (ITS), Surabaya

Sep 2021 – Aug 2025

Bachelor of Informatics, GPA 3.61 — Teaching Assistant, Data Structures / Fundamental Programming / Operating Systems; Finalist, SSG x Hackfest 2024