

Oswaldo Dylan Hamidy

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Education

Sungkyunkwan University, South Korea

August 2022 – Present

B.S. Computer Science and Engineering – Expected July 2026

- Current GPA: 4.24/4.5
- Recipient of the University Merit-Based Scholarship for 6 consecutive semesters.
- Relevant Coursework: Probability and Random Process, Introduction to Deep Neural Network, Fundamentals of Machine Learning, Operating Systems, Computer Security, Computer Network

Professional Experience

AI & Robotic Software Engineer, Luxolis, South Korea

March 2026 – Present

- Built an end-to-end welding automation stack (Combining Apline.js UI + FastAPI + C++ DRFL Robot Daemon) that controlled a Doosan A0912 arm, Raycus CFL laser, and motorized turntable, all in a single software which is used directly in client acquisition demos.
- Containerized company software into reproducible Docker microservices with automated build scripts, bundling MinIO, Redis, and SQL
- Managed deployment for a React Native (Android/iOS) app with 3D spatial vision features, focused on validating spatial package compatibility and running integration tests across the stack.

AI/Backend Engineer: RAG Pipelines, Saifly, United States (Remote)

November 2025 – February 2026

- Lifted compliance RAG pipeline from zero baseline to recall@k 0.448 and MRR 0.382 via Docling chunking, pgvector retrieval, and automated eval framework (recall, precision, MRR, NDCG)
- Built semantic chunking with clause-level embeddings, token-boundary constraints, and metadata-rich vector indexing for explainable retrieval
- Reduced ingestion overhead via async batching, deduplication, and incremental re-indexing.

Design and Marketing Part-Time, Wishcompany, South Korea

March 2023 – February 2026

- Coordinated influencer/UGC communication across SEA, focusing on brand collaboration and alignment.
- Produced localised digital content and graphics to support social media marketing campaigns in Indonesia.

Undergraduate Researcher, HLI Lab, Sungkyunkwan University

September 2025 – December 2025

- Conducted cultural-bias evaluation (GPT, Llama, Qwen, Claude, Gemini) to analyze internal cultural priors and stereotype sensitivity.
- Proposed a value-based cultural-alignment framework combining LLM value inference, bias correction, evaluation based on WVS-data, and Schwartz-guided persona steering,

Selected Project Experience

- [Capstone Design Project – Foodie](#)
 - Built a Flutter/Firebase mobile app integrating recipes API + OpenAI image detection model to detect fridge ingredients and recommend recipes to the user.
- [Python Face Detector](#)
 - Created a simply Python app that uses face recognition and OpenCV to identify K-pop group members via webcam or screen capture, then triggers Spotify playback or their songs via the Spotify API.

- [Full-Stack Real-Time Chat App](#)
 - Built a full-stack messaging app with React frontend and FastAPI backend with SQLite, supporting real-time chat via WebSockets, DMs and group rooms, file sharing, emoji reactions, live weather widget (Open-Meteo API), HTTP range video streaming, and an Ollama-powered AI user that replies in chat.
- **xv6 OS – Operating Systems**
 - Implemented process priority system calls, a Completely Fair Scheduler (CFS), virtual memory management with page faults, and LRU/clock-based page replacement.

Skills

- **Languages/Tools:** Python, C/C++, JavaScript, TypeScript, Node.js, Next.js, React, React Native, Flutter, HTML/CSS, Firebase, MySQL, REST API, Tailwind, AWS, Docker, Git, Linux, Scikit-Learn, Pandas, NumPy.
- **AI/ML:** Transformers, RAG pipeline, embeddings, vector search, CNN, SVM, deep neural networks, Gaussian Mixture Model, SHAP, LIME
- **AI Engineering:** Multi-agent systems, MCP, prompt engineering, agentic workflows, LangChain, Docling, Ollama, Claude API, AI automation.
- **Robotics:** ROS2, DRFL Robot API, embedded software integration (Arduino)
- **Other:** Data analysis, statistics, scientific writing, public speaking.
- **Languages:** English (fluent), Indonesian (native-fluent), Korean (intermediate)