

Seavleu Heang

Curriculum Vitae

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AREAS OF FOCUS

My work in production AI has shaped a focused interest in **computer vision, time-series forecasting, and end-to-end AI engineering**, particularly for noisy, real-world industrial data. Beginning the **Master of Artificial Intelligence at the University of Auckland in March 2027** is the next step in that trajectory. I aim to deepen my expertise in modern deep learning, with particular interest in **transformer-based and multimodal models**, while strengthening the engineering and deployment skills needed to turn advanced AI research into reliable, production-ready systems.

EDUCATION

Woosong University, Daejeon, South Korea

August 2022 – August 2024

Bachelor of Science in Artificial Intelligence and Big Data

- **Cumulative GPA: 4.21/4.50**; admitted as a transfer student with a **70% merit scholarship** from Norton University.
- **A+ in major courses**: Advanced Topics in Machine Learning, Computer Vision, Introduction to Data Analytics, Web Analytics, Logic and Programming, and Principles of Blockchain Technology.
- **A in major courses**: Introduction to Machine Learning, Advanced Big Data Tools, and Cloud Platform; **A in Business Analytics** (elective).
- **Capstone Design in Company's Project II (6 credits)**: Completed an industry AI collaboration with Netvision; project team received **1st Prize among ~200 teams** in the LINC 3.0 Business Capstone Design Project and subsequently contributed to a formal university–industry MOU.
- **Standard Field Training, Semester System 4 (18 credits)**: Selected as **one of two fourth-year students from the department** for a three-month industry placement through the department's industry partnership; subsequently transitioned to **full-time employment**.
- **International Student Success Story**: Selected by the **Director of AI and Big Data, Prof. Tumennast Erdenebold** to represent the department through a student success story highlighting academic achievement, industry experience, and career progression, with the feature used for **international promotion and student recruitment in Uzbekistan and Vietnam**.
- **Department Student Representative (2024)**: Selected to represent the **Department of AI and Big Data** at the university's graduation ceremony and invited to represent the department in **official university promotional media**, including a student interview video and institutional photography used for university/department communications and website.
- **Co-Founder & Student Leader, Software and Entrepreneurship Club**: Led student programming and entrepreneurship activities and mentored **50+ students**.

Norton University, Phnom Penh, Cambodia

February 2020 – August 2022

Undergraduate study in Software Development (transferred to Woosong on scholarship); GPA 3.50/4 with A grades in Programming Methodology in C++, Mathematics for Computer Science II, Core English I, and Principles of Business.

AI AND MACHINE-LEARNING EXPERIENCE

RWS Group Limited (Remote)

December 2025 – Present

AI Data Specialist (Part-Time)

- Label, evaluate, and tag images, text, and other content for AI training and evaluation datasets under strict quality standards; hands-on exposure to modern annotation workflows for large-model training data.

RECS Innovation Co., Ltd., Naju, South Korea

February 2025 – June 2025

Junior AI Engineer (Full-Time), renewable-energy and smart-grid company.

- **Virtual Power Plant & AI Energy Trading PoC**: Co-developed a virtual power plant system integrating **Self-Demand Response, electricity-demand forecasting, reinforcement-learning-based ESS optimisation, blockchain-enabled peer-to-peer energy trading, and wholesale–retail electricity pricing**. Contributed to the patent application, with **Claims 1, 2, and 4 filed during tenure**.
- **Electricity Demand Forecasting**: Co-developed a multivariate demand-forecasting engine using **KEPSIS** data, incorporating historical consumption, electricity prices, weather, and regional characteristics. Benchmarked **LSTM and Transformer-based temporal models** against structured-data baselines for consumer-level demand forecasting.
- **ESS Optimisation & Energy Trading**: Investigated **sequential decision-making and optimisation approaches** for battery charge/discharge scheduling under demand and price uncertainty, considering operational constraints and energy-market signals. Explored **reinforcement learning** as an approach for adaptive ESS control.
- **Korean Equity Forecasting**: Built an end-to-end quantitative forecasting pipeline covering approximately **331 Korean equities and 1M+ daily OHLCV bars**, spanning data ingestion, cleaning, feature engineering, model training, hyperparameter optimisation, and backtesting.
- Engineered **30+ financial and alternative-data features**, including RSI, MACD, Bollinger Bands, moving averages, momentum, volatility, Savitzky–Golay denoising, **Alpha158-style factors**, and Korean financial-news sentiment.

- Implemented and benchmarked **XGBoost, LSTM, Seq2Seq with Bahdanau attention, and Transformer architectures**, using **XGBoost as a structured-data baseline** and temporal deep-learning models to capture sequential dependencies. Applied **Optuna** for hyperparameter optimisation and **SHAP** for feature analysis and model interpretability.
- Formulated the equity task around **future return forecasting and cross-sectional signal evaluation**, using **chronological walk-forward evaluation** and sequential batch sampling to reduce temporal leakage. Evaluated performance using **MSE, RMSE, R², Information Coefficient (IC), and Rank IC**.
- **Construction Bid-Rate Prediction**: Developed a **quantile-regression model** for Korean public-sector construction tenders, addressing the bounded and non-normal nature of bid-rate targets while complementing the team's linear-regression baseline. Collaborated with the data-collection engineer to scrape and preprocess public tender records.

Netvision Telecom Co., Ltd., Daejeon, South Korea

August 2024 – October 2024

AI Engineer — Woosong–Netvision Capstone II collaboration (LINC 3.0 First-Prize project; industry placement)

- Contributed to Netvision's **Smart Waste Collection Solution**, a computer-vision system designed to detect and analyse municipal standardised waste bags from cameras mounted on collection vehicles, providing waste **type, location, quantity, volume, and weight** data for cloud-based collection and fleet optimisation.
- Led and contributed to the **computer-vision data pipeline**, including field data collection, dataset construction, synthetic data generation, image labelling, annotation, and segmentation to prepare training data for object-detection models.
- Contributed to the AI training architecture and **partially implemented YOLO-family object-detection training**, supporting the development and evaluation of models on the collected and augmented dataset.
- Worked as part of the team that received **First Prize among approximately 200 teams** in the **LINC 3.0 Business Capstone Design Project**, with a **₩1,000,000 award**; the project subsequently supported a formal **Woosong University–Netvision industry MOU**.

SOFTWARE ENGINEERING EXPERIENCE

Freelance Full-Stack Developer (Remote)

August 2025 – Present

Independent Contractor

- **FemFit — mobile-first e-commerce storefront**: built the store with catalogue browse, cart, checkout, and admin panel on Next.js 15, React 19, TypeScript, Drizzle ORM, Supabase (Postgres), Tailwind CSS, and shadcn/ui. Designed as a modular monolith with cart, orders, payments, and admin modules; implemented Supabase Row-Level Security policies, ABA PayWay integration with HMAC-SHA512 webhook verification, and a transactional stock-reservation pipeline to handle concurrent checkouts safely.
- **MeyMey Sport — catalogue showcase platform**: built a secure catalogue platform on Next.js and Supabase, with built-in authentication and full CRUD management.
- **Santi Domnak Rentals (santidomnakrentals.site) — rental accommodation site**: designed and shipped a marketing and enquiry website for a Siem Reap rental business serving students, workers, and expats (March 2026).

JM Energy Co., Ltd, Naju, South Korea

March 2024 – December 2024

Frontend Engineer — Woosong University Standard Field Training placement, converted to full-time employment

- **Solely developed and shipped a production multilingual web application in Vue.js + TypeScript**, supporting **Korean, English, Chinese, and Russian**, with real-time API integration for monitoring operational data from **solar and hydropower plants**.
- Built frontend interfaces around **live energy-generation data**, integrating backend APIs and handling data presentation for operational monitoring across renewable-energy assets.
- Collaborated with backend engineers, a senior frontend engineer, and the team lead to **debug API integrations, resolve production issues, and deliver incremental features** across internal solar and hydropower monitoring systems.
- After transitioning to full-time employment, contributed to a **React Native mobile application for hydropower grid-system management**, working with senior and backend engineers on the development and integration of mobile features.

Khamsa Group of Businesses Co., Ltd. Cambodia (Remote)

January 2023 – March 2023

Frontend Engineer Intern

- Built single-page applications and integrated Web3 smart contracts using Alchemy, Moralis, Hardhat, and Ganache; produced Khmer-language tutorials to make blockchain accessible to local audiences.

TECHNICAL SKILLS

Programming & Software Engineering: Python, TypeScript, JavaScript, SQL; Git, Linux/CLI, Docker, REST APIs, CI/CD

ML & DL: PyTorch, scikit-learn, Keras, XGBoost, Hugging Face Transformers, Optuna, SHAP; time-series modelling, computer vision, object detection, image segmentation, quantile regression, feature engineering, model evaluation and benchmarking

Data & Backend: NumPy, Pandas, FastAPI, Node.js, Express.js, PostgreSQL, MongoDB, Supabase, Prisma, Drizzle ORM

Frontend & Mobile: Next.js, React, Vue.js, React Native, Tailwind CSS, SCSS, shadcn/ui

Development Practices: Agile/Scrum, GitHub Actions, technical documentation, API integration, dataset collection and annotation

Others: Websocket

AWARDS AND HONOURS

- **Finalist, 6th Silicon Valley Business Forum (2024)** — Blue Pill AI recruitment platform; represented Woosong University against undergraduate, master's, and PhD teams from South Korean universities under mentorship from Endicott College and UC Berkeley's AMENA Center.
- **1st Prize, LINC 3.0 Business Capstone Design Project (2023)** — Woosong–Netvision Smart Waste Collection Solution; **1st of ~200 teams**, ₩1,000,000 award.
- **1st Prize, Software & Entrepreneurship Leadership Honour Award (2023)** — **Team Leader**.
- **2nd Prize, Operating Systems Competition (2023)** — **Team Leader**.
- **3rd Prize, Data Visualisation Competition (2023)** — **Individual Entry**.
- **1st Prize, Principles of Blockchain Technology (2022)** — **Team Leader**.
- **1st Prize, Freshman Capstone Project (2022)** — **Team Leader**.

LEADERSHIP AND COMMUNITY SERVICE

AIEP Software & Entrepreneurship Club, Woosong University | Co-Founder, Student Lead & Project Coordinator
August 2022 – January 2024

- Co-founded and served as **Student Lead**, coordinating club activities, student development initiatives, and applied software projects.
- **Mentored 50+ first-year students** in programming, software development, and project-based learning through workshops, technical sessions, and peer mentoring.
- Served as **Project Coordinator**, organising project teams, delegating responsibilities, tracking deliverables, and facilitating collaboration between students and university stakeholders.
- Organised **technical workshops, networking events, and student-led activities** to promote software development and entrepreneurship within the university community and the annual AIEP's festival.

Junior Chamber International (JCI), Cambodia | Project Coordinator & Registration Team Lead
January 2022 – August 2022

- Served as **Project Coordinator and Team Lead** for community initiatives including **Chbar Ampov Day** and blood-donation campaigns.
- Led the **registration team** for Chbar Ampov Day, coordinating volunteer assignments, participant registration, and on-site operations for an event attended by **2,000+ participants**.
- Coordinated project activities and volunteer teams across community-service initiatives, ensuring operational tasks were completed efficiently and on schedule.
- Supported social-media outreach campaigns that achieved **64,940+ reach**, helping increase public awareness and participation in community initiatives.

LANGUAGES AND CERTIFICATIONS

- **Languages:** Khmer (native); English (fluent — Duolingo English Test 125, IELTS 7.5 equivalent, June 2022); Chinese (moderate).