Gading Aditya Perdana

+62 811920059 | gadingadityaperdana@gmail.com | LinkedIn/gadingperdana | gadingadityap.vercel.app | Google Scholar
Central Jakarta, Indonesia

Summary

First-generation undergraduate AI Researcher and Engineer specializing in Computer Vision and Deep Learning. Author of five peer-reviewed publications (four first-author) with interest in Vision Transformers, Ensemble Learning, and Model Calibration. Independently drive research projects from conception to publication while self-funding through freelance work. Experienced in implementing and deploying machine learning systems, with strong foundations in PyTorch

Education

Binus University | GPA: 3.52/4.00 — Jakarta, Indonesia
Bachelor of Science in Computer Science, Specialization in Intelligence Systems — *Aug. 2023 – Feb 2027*

- Accelerated 3.5-year program; **Apple Developer Academy Scholar (Cohort 2026)**
- Research focus: Medical Imaging, Vision Transformers, and Model Trustworthiness.

Publications

- **Perdana, G. A.**, Nasari, M., Saputra, M.A., Halim, R., Minor, K.A. "Enhancing Bone Fracture Detection in X-ray Images Using Faster R-CNN with EfficientNetV2." *IEEE ISRITI* (2025). **First author.**
- **Perdana, G. A.**, Ghazali, M.A., Iswanto, I.A., Joddy, S. "CALM: Calibrated Adaptive Learning via Mutual-Ensemble Fusion." *Procedia Computer Science* (ICCSCI 2025). **First author; Scopus Q2.**
- **Perdana, G. A.**, Kisdi, M.I.A., Wairooy, I.K., Makalew, B.A. "Analytical Analysis of Cryptocurrency Regulation and Adoption: A Machine Learning-Driven Ablation Study." *Procedia Computer Science* (ICCSCI 2025). **First author; Scopus Q2.**
- Nathen, A., **Perdana, G. A.**, Jefferson, G., Hasani, M.F., Maulina, A., Tjahyadi, B.G. "Tiny vs. Tinier: Baseline ViT-Tiny vs. Ensemble-Distilled Student on Imbalanced Fracture Detection." *Procedia Computer Science* (ICCSCI 2025). **Second author; Scopus Q2.**
- **Perdana, G. A.**, Wijaya, I.I., Fahreza, K.A., Tarigan, G.A. "Ablation Study: Calibrated Adaptive Learning Ensemble Methodology." *Procedia Computer Science* (ICCSCI 2025). **First author; Scopus Q2.**

Note: All research was independently self-funded. ICCSCI acceptance rate ≈26%.

Awards & Honors

Best Presenter Award — Semarang, Indonesia
The 10th International Conference on Computer Science (ICCSCI) — *August 2025*

- Awarded for exceptional technical communication and research defense among international doctoral and academic presenters.

Experience

Undergraduate Research Assistant — Jan 2025 – Dec 2025
Binus University (Bina Nusantara University) — *Anggrek Campus, Jakarta*

- **Lead Author & Researcher:** Led experimental design for bone fracture detection, progressing from research assistant to first authorship on an IEEE publication.
- **Data Engineering:** Curated the FracAtlas X-ray dataset with custom COCO annotations; designed a preprocessing pipeline to mitigate severe class imbalance in medical imaging data.
- **Model Architecture:** Benchmarked FPN vs. PAFPN architectures; engineered a Faster R-CNN model with an EfficientNetV2-S backbone, implementing cost-sensitive loss functions.
- **Training Pipeline:** Optimized training using AdamW, mixed precision (AMP), and Exponential Moving Average (EMA); achieved a 21.6% mAP improvement over baseline models.

Application Developer Intern — Jul. 2024 – Aug. 2024
Otoritas Jasa Keuangan (Indonesia Financial Services Authority) — *Jakarta, Indonesia*

- Developed backend banking supervision features ensuring strict regulatory compliance (*Tech Stack: C#/.NET, PostgreSQL*).
- Optimized high-volume database queries and refactored legacy code, significantly reducing query latency and support ticket volume.
- Collaborated with senior engineers on architectural decisions for government-scale system scalability and reliability.

Selected Projects

CALM: Calibrated Adaptive Learning via Mutual-Ensemble Fusion Feb. 2025 – May 2025

- Designed a novel ensemble framework integrating knowledge distillation, mutual learning, and calibration to enhance model confidence and reliability.
- Implemented an adaptive curriculum protocol to dynamically schedule training objectives, optimizing multi-teacher fusion.
- Achieved **98.16% accuracy** on CIFAR-10 with a **20% reduction** in Expected Calibration Error (ECE), demonstrating strong generalization.

Diabetic Retinopathy Detection System Sep. 2024 – Nov. 2024

- Engineered a desktop analysis tool for retinal disease classification featuring Grad-CAM visualization for medical interpretability.
- Fine-tuned InceptionV3 on the APTOS dataset, utilizing advanced data augmentation to achieve **88% accuracy**.

Ensemble Learning for Waste Classification Mar 2025 – May 2025

- Developed a logit-fusion ensemble combining EfficientNet-B0 and DenseNet121 with learnable weights, improving classification performance on 12-class datasets.

Leadership & Service

Board Member – General Secretary, Bagi Dunia (NGO) Feb. 2024 – Present

Jakarta, Indonesia

- Directed financial operations and fundraising, securing Rp17M+ (USD ≈$1000) and seven corporate sponsorships.
- Managed 30+ volunteers and coordinated logistics for food distribution aid to over 100 beneficiaries.

Academic Tutor & Content Creator Nov. 2023 – Present

Independent *Jakarta, Indonesia*

- Conducted weekly tutorials in Statistics, Discrete Math, Computational Physics and Linear Algebra; organized technical bootcamps reaching 150+ students.

Certifications

Specialized Training

- **NVIDIA Deep Learning Institute** (Dec 2025): Building LLM Applications With Prompt Engineering
- **Kaggle ML** (2025): Computer Vision, Model Explainability, Deep Learning
- **FreeCodeCamp** (2024-2025): Scientific Computing (Python), Machine Learning (Python), Algorithms

Technical Skills

Languages: Python, C, SQL, JavaScript, Java
Deep Learning: PyTorch, TensorFlow, Keras, Vision Transformers (ViT), CNNs, Object Detection, Transfer Learning
ML Ops & Tools: Docker, Git, MLflow, Weights & Biases (W&B), NumPy, Pandas, OpenCV, Grad-CAM
Research: Experimental Design, Ablation Studies, Statistical Analysis, Technical Writing, Data Augmentation & Pipeline curation

Languages

English (Professional Proficiency)

Spanish (Basic)

Indonesian (Native)