

PANDU PANGESTU

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SUMMARY

Informatics Bachelor graduate from Siliwangi University with expertise in technology including AI, Deep Learning, and Frontend Web Development, backed by 20+ academic, research, applied projects completed since 2023. Strong technical and analytical skills with hands-on experience in building computer vision models and data-driven web applications across diverse sectors. Detail-oriented, adaptable, and able to work effectively both independently and within collaborative teams.

EDUCATION

Siliwangi University

Bachelor of Informatics, Faculty of Engineering (GPA: 3.85 / 4.00)

- Undergraduate Thesis:** Improving YOLOv12 with Selective Kernel Network and HVI-CIDNet Preprocessing for Autonomous Driving Object Detection.
- Relevant Coursework:** Algorithms and Data Structures, Artificial Intelligence, Computer Vision, Database Systems, Deep Learning, Object-Oriented Programming, Web Development.

Tasikmalaya, Indonesia

2022 - Completed July 2026

WORK EXPERIENCE

Badan Pusat Statistik Kota Tasikmalaya (Internship)

May 2025 – July 2025

- Architected an interactive Web platform and forecasting dashboard using Next.js 15, TypeScript to monitor and estimate regional crop yields utilizing BPS Kerangka Sampel Area (KSA) methodology and BPN geospatial data.
- Engineered automated spatial computing pipelines, executing client-side point-in-polygon algorithms across 10 sub-districts to classify and map spatial rice growth phases (vegetative, generative, harvest, and land preparation).
- Implemented client-side statistical regression modeling and automated Excel ingestion (XLSX) across 293 KSA subsegments over 17 consecutive survey months (2024–2025), accelerating harvest yield forecasting and reporting turnaround by 40% via dynamic Recharts visual analytics.

Artificial Intelligence Siliwangi (AIS) (Research Assistant)

June 2023 – Present

- Spearheaded the research and development of 6+ multi-domain computer vision and deep learning systems, focusing on autonomous driving perception, facial manipulation detection, and industrial defect inspection
- Curated, preprocessed, and augmented 25,000+ multi-modal image and tabular dataset records, training 80+ deep learning experiments using PyTorch and YOLO to optimize model accuracy and inference speed.
- Architected and built 4+ responsive web applications utilizing React.js, Next.js, and Tailwind CSS, deploying secure blockchain-based donation tracking platforms for institutional partners (Lazismu & Ponpes Al-Ihsan).
- Produced 4 HKI (Intellectual Property Rights registered at DJKI) and contributed to 4+ peer-reviewed academic publications across Scopus-indexed journals and IEEE international conferences.

Informatics Laboratory Siliwangi University (Teaching Assistant)

March 2023 – April 2024

- Instructed and mentored 170+ undergraduate students across 6 classes in Database Systems, delivering hands-on coursework on relational schema design, advanced SQL querying (DDL, DML, complex joins, subqueries), and 1NF–3NF normalization.
- Mentored students during weekly lab sessions and semester projects in SQL debugging and relational schema troubleshooting, improving practical assignment completion rate by ~25%.
- Guided students through hands-on database exercises and final project implementations, configuring local server environments using Apache and MySQL to reinforce query optimization, database connectivity, and structured development practices

PUBLICATION

Scopus Q2 Journal (International Journal of Intelligent Engineering and Systems)

2026

- NGABUDI: Neural Guided Adaptive Bootstrapped Unsupervised Driving Intelligence, Accepted.

IEEE International Conference (ICIC-APTİKOM 2026)

2026

- ASPIRE-YOLOv12: Adaptive SimAM Attention and Contrast Enhanced for Multi Disease Pulmonary Detection, Accepted

IEEE International Conference (10th IEEE ICWT)

2026

- Improving YOLOv12 with Selective Kernel Networks for Autonomous Driving Object Detection.

Sinta 2 Journal (Journal of Innovation Information Technology and Application)

2026

- E-SAFE: EfficientNet with Squeeze-and-Attention Feature Enhancement for Deepfake Detection.

Scopus Q4 Journal (ICIC Express Letters)

2025

- Optimizing Corrosion Object Detection on Metal Objects Based on BAMi-YOLOv5s.

Sinta 3 Journal (International Journal of Applied Sciences and Smart Technologies)

2024

- Neural Clustering and Trend Analysis of Priority Commodities in IKN Using Data Mining.

PROJECT EXPERIENCE

- **Research (2026):** Deep Learning-Based Object Recognition Model for Real-Time People Counting Systems.
- **Research (2026):** Optimization of the E-SAFE Model: EfficientNet with Enhanced Attention for Detecting Deepfake Images.
- **Research (2026):** Development of a Self-Learning Vision System for Autonomous Vehicle Adaptability.
- **Research (2026):** ASPIRE-YOLOv12: Contrast-Enhanced Multi-Disease Pulmonary Detection System.
- **Thesis (2026):** Improving YOLOv12 with Selective Kernel Network and HVI-CIDNet Preprocessing for Autonomous Driving Object Detection.
- **Project (2025):** Website Platform and Spatial Crop Yield Forecasting Dashboard at BPS Kota Tasikmalaya.
- **Project (2025):** Blockchain-Based Precision Donation System for Disaster Relief Management at Lazismu Kabupaten Tasikmalaya.
- **Project (2025):** Decentralized Waqf Management Platform using Blockchain Technology at Ponpes Al-Ihsan.
- **Research (2025):** Development of a Deep Learning-Based Facial Deepfake Identification System Using Convolutional Neural Networks.
- **Certification (2025):** Fine-Tuned IndoBERT Model with Slang Detection and Adam Optimizer for Halodoc Sentiment Analysis (BNSP)
- **Research (2025):** Development of an Object Detection Model for Corrosion on Metal Object Surfaces in Industrial Environments.
- **Project (2024):** Early Stunting Detection Web System with Healthy Lifestyle Recommendation Engine for Puskesmas Purbaratu.
- **Project (2024):** Integrated Academic Reporting and Student Record Web System at PAUD Ciptowati.
- **Project (2024):** Secure Student Election E-Voting Web Application with One-Time Password (OTP) Verification.
- **Research (2024):** Neural Clustering and Trend Analysis of Priority Commodities in Nusantara Capital (IKN) Using Data Mining.

CERTIFICATIONS

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| • <b>Badan Nasional Sertifikasi Profesi (BNSP)</b><br><a href="#">Certified Junior Data Scientist</a>                                                                                                     | <b>August 2025</b>                                                              |
| • <b>MySkill.id</b><br><a href="#">Full Stack Data Analysis</a>                                                                                                                                           | <b>August 2023</b>                                                              |
| • <b>Sanbercode Bootcamp</b><br><a href="#">React Native</a><br><a href="#">UI/UX Design</a><br><a href="#">React JS</a><br><a href="#">Node JS</a><br><a href="#">Laravel</a><br><a href="#">Next JS</a> | <b>2022 - 2024</b><br>Nov 2022<br>Dec 2022<br>Jan 2023<br>May 2023<br>Sept 2023 |

SKILLS & LANGUAGES

- **Hard Skills:** Python, JavaScript, TypeScript, SQL, PyTorch, YOLO, OpenCV, Model Optimization, Object Detection, React.js, Next.js, Node.js, Tailwind CSS, Git, GitHub, Linux, Agentic AI, Prompt Engineering, Hermes Agent.
- **Soft Skills:** Problem Solving, Analytical Thinking, Technical Communication, Team Collaboration, Adaptability, Grit.
- **Language:** Bahasa Indonesia (Native), English (TELP Siliwangi University: 453 (TOEFL Standard)).