WILBERT CHANDRA

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Education

Binus University — **Jakarta, Indonesia**
Bachelor of Computer Science, Data Science Major — Aug 2022 – Present
GPA: 3.87/4.00

Experience

Data Engineer Intern — **Mar 2025 – Present**
Samsung R&D Institute Indonesia — *Jakarta, Indonesia*

- Led end-to-end development of internal AI service using RAG architecture, deploying new LLM and leveraging LangChain framework to optimize performance.
- Automated data workflows by refactoring Apache Airflow pipelines and building CI/CD pipeline with Docker and GitHub Actions.
- Enhanced data governance through implementation of security protocols for sensitive information and conducting proof-of-concept for system migration.
- Managed AWS architecture components to ensure seamless integration and performance.
- Collaborated with cross-functional teams to define data requirements and improve system capabilities.

Projects

SatuDua App — **Aug 2025 – Oct 2025**
Backend Indonesia — *Compfest 2025*

- Built for the AI Innovation Challenge, Compfest 2025, hosted by University of Indonesia.
- Developed an emergency-response system with a mobile app and dispatcher dashboard.
- Engineered a Backend Live Calling Service featuring real-time transcription via Azure AI and an automated emergency summary system powered by Gemini.
- Mobile app includes 112 emergency quick-call, location tracking, nearby service lookup, and educational content.
- Dispatcher dashboard includes call management, notifications, real-time caller tracking, and AI-driven action recommendations.
- **Technologies used:** React Native, TypeScript, Next.js, Supabase, Python, FastAPI, Azure AI, and Gemini.

UniPal — **Jul 2024 – Sep 2024**
Backend & AI Engineer — *PKM Indonesia*

- Architected the backend service to facilitate real-time conversational AI interactions.
- Built a seamless speech-processing pipeline integrating Google STT for accurate speech-to-text transcription and ElevenLabs for lifelike text-to-speech synthesis.
- Orchestrated the core logic layer using Google Gemini as the LLM to generate intelligent, context-aware responses.
- **Technologies used:** Python, Google Gemini, ElevenLabs API, Google Cloud STT.

MRI Image Segmentation — **Jun 2024 – Dec 2024**
Lead AI Engineer — *Project*

- Spearheaded the end-to-end development of a deep learning model designed to automate the segmentation of MRI scans for medical analysis.
- Engineered the model architecture (CNN-based) to precisely identify and mask regions of interest within high-dimensional medical imagery.
- Implemented rigorous data preprocessing pipelines, including normalization and augmentation, to handle complex medical datasets and prevent overfitting.
- Achieved high segmentation accuracy (Dice Coefficient/IoU) through iterative hyperparameter tuning and model validation.
- **Technologies used:** Python, TensorFlow/PyTorch, OpenCV, NumPy, and Matplotlib.

Publications

Multiclass Eye Disease Detection **Jul 2025 – Nov 2025**

https://doi.org/10.1016/j.procs.2025.09.079 *Procedia Computer Science (Elsevier)*

- Co-authored research published in **Procedia Computer Science**, presenting a lightweight deep learning framework to classify 9 distinct retinal conditions (e.g., Glaucoma, Diabetic Retinopathy).
- Benchmarked four state-of-the-art lightweight architectures (MobileNetV4, LeViT, EfficientViT, GENet) to optimize for computational efficiency in resource-limited settings.
- Achieved state-of-the-art performance with EfficientViT, attaining a ROC-AUC of 0.9780 and Kappa of 0.7899 with only 3 million parameters.
- Deployed the finalized model as a web-based application on Hugging Face Spaces for real-time public interaction and inference.
- **Technologies used:** PyTorch, EfficientViT, Transfer Learning, Hugging Face Spaces, and Computer Vision.

RSNA Degenerative Lumbar Spine Classification **Feb 2025 – Mar 2025**

IEEE

https://ieeexplore.ieee.org/document/10933461

- Authored and published research in IEEE Xplore, focusing on the automated detection of degenerative spinal conditions using deep learning.
- Led the technical implementation and training of multiple diverse CNN architectures (e.g., EfficientNet, ResNet) to benchmark and optimize classification performance.
- Developed a comprehensive training pipeline including data augmentation and preprocessing for MRI datasets.
- **Technologies used:** PyTorch, Computer Vision, Medical Imaging (DICOM), and Ensemble Learning.

Skills

Languages & Databases: Python, SQL
Frameworks & AI: Apache Airflow, LangChain, TensorFlow, PyTorch, Milvus, VLLM, RAG
Cloud & Tools: AWS, Docker, GitHub Actions
General Skills: Data Modeling, Data Analysis, Visualization, Problem Solving
Spoken Languages: Indonesian (Native), English (Professional Working Proficiency)