Sendi Setiawan

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LINKS

https://www.linkedin.com/in/sendist/ | https://github.com/sendist

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PROFILE

Dynamic Software Engineer, poised to leverage skills in software development, web development, artificial intelligence, and machine learning. Committed to continuous learning and innovation within the field of informatics.

EMPLOYMENT HISTORY

Jun 2024 — Oct 2024

Junior Software Developer, PT Collega Inti Pratama
South Jakarta, Jakarta, Indonesia

- Developed and implemented a cross-platform mobile application using Flutter framework to monitor critical financial processes, including start-of-day (SOD) tasks, end-of-day (EOD) tasks, and end-of-month (EOM) closures.
- Developed comprehensive database process documentation using sequence diagrams to visualize workflow logic, data interactions, and system dependencies.
- Translated complex database operations into user-friendly diagrams for non-technical stakeholders, improving cross-departmental alignment.
- Designed and prototyped a dual-database architecture to decouple read/write operations with implementing Change Data Capture (CDC) using Debezium and Apache Kafka to synchronize real-time data streams between databases, ensuring consistency.

Key Technologies: Flutter, Firebase, Change Data Capture, Debezium, Apache Kafka, Java, PostgreSQL

EDUCATION

Sep 2021 — August 2025

Bachelor of Applied Science - BASc in Informatics, GPA 3.63, Politeknik Negeri Bandung
Bandung, West Java, Indonesia

RELEVANT COURSEWORK

Software Development, Web Development, Machine Learning Engineer, Data Science

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TECHNICAL SKILLS

- **Programming Languages:** Java, JavaScript, Python, C
- **Database:** MySQL, PostgreSQL, MongoDB
- **Framework:** React, Express.js, Spring Boot, Flutter, Tensorflow, PyTorch
- **Languages:** Indonesian (Native), English (TOEIC Listening & Reading 955/990)
- **Soft Skills:** Problem Solving, Communication, Time Management, Collaboration, Adaptability, Quick Learner, Decision Making, Growth Mindset.

PROJECT EXPERIENCE

Feb 2025 — Jun 2025

3D U-Net Architecture Optimization using Attention Mechanism for Protein Object Identification in Cryo-Electron Tomography Image

- Investigated and optimized a 3D U-Net architecture for automated protein identification in complex Cryo-Electron Tomography (Cryo-ET) images.
- Implemented and systematically compared three distinct attention mechanisms, Attention Gates (AG), Squeeze-and-Excitation (SE), and Convolutional Block Attention Module (CBAM) to improve model accuracy.
- Achieved a performance increase, improving the F-beta score from a baseline model of 0.643 to 0.714 using the Squeeze-and-Excitation (SE) mechanism.
- Trained and validated models using the PyTorch and MONAI frameworks on a large-scale tomogram dataset from the Chan Zuckerberg Imaging Institute.
- Developed an interactive inference interface using Streamlit to allow for easy visualization and analysis of model predictions on new data.

Apr 2024 — Jun 2024

E-Commerce Platform with Microservice Architecture

- Designed and implemented an e-commerce application using a microservice architecture for scalability and modularity.
- Integrated Apache Kafka as an event-driven messaging system to handle asynchronous communication between services
- Built services with Spring Boot and connected to PostgreSQL database for persistence storage.

Feb 2024 — Jun 2024

Open edX LMS Enhancement Project

- Spearheaded a team of 19 students, organized into 6 sub-teams, to customize and enhance an Open edX-based Learning Management System.

- Directed the project lifecycle, from planning and task delegation to final integration, ensuring all milestones were met on schedule.
- Oversaw the development and implementation of 6 new custom features to improve user engagement and functionality for both learners and instructors.

Oct 2023 — Dec 2023

WhatsApp Broadcasting Web Application Development

- Served as a front-end and back-end developer, delivering end-to-end functionality across the application lifecycle. Architected user interfaces with React frameworks and designed scalable back-end systems using Express.js, ensuring seamless integration between components.
- Optimized application responsiveness by implementing mobile-first design principles.
- Developed and maintained RESTful APIs to facilitate data exchange between front-end interfaces and back-end services.

Aug 2023 — Dec 2023

TikTok Political Content Analytics System

- Led development of an information system prototype analyzing 2024 Indonesian election content on TikTok using Impression-Engagement Rate metrics
- Implemented k-means clustering to categorize political posts into actionable content strategy groups for political parties
- Achieved functional web prototype with data-driven content recommendations for political campaigns

Mar 2023 — May 2023

Face Emotion Recognition Application for Game Testing

- Developed a real-time facial emotion recognition (FER) system using computer vision and ML models to capture user reactions during game testing via webcam feed.
- Engineered data pipeline to log emotion analysis results (anger, joy, surprise, etc.) into structured CSV files for quantitative evaluation.
- Trained and fine-tuned a convolutional neural network (CNN) model achieving 89% accuracy on RAF-DB Dataset.
- Visualized emotion distribution and intensity trends using time-series graphs and heatmaps to identify gameplay pain points.

Apr 2022 — Jun 2022

Market Basket Analysis (MBA) Application Development

- Developed a desktop application for market basket analysis that processes product transaction data to identify purchasing patterns and product associations.
- Implemented the Apriori algorithm with optimized tree-based data structures
- Engineered a Java Swing GUI featuring intuitive data visualization of association rules (support/confidence metrics) and purchase frequency trends.
- Applied OOP principles to create modular architecture with separated concerns (data processing, algorithm core, UI components).

ADDITIONAL EXPERIENCE

Aug 2024 — Sep 2024

Digistar Class Mentoring Program by Telkom Indonesia   Remote

- Collaborated to design and propose business solutions for a digital learning platform, addressing pain points in user engagement, content delivery, and scalability.
- Developed a web-based prototype to validate the proposed solution to simulate core functionalities such as course enrollment and progress tracking.
- Engineered the back-end infrastructure using Express.js, designing RESTful APIs for seamless integration with front-end components (React.js).

ORGANIZATION

Apr 2022 — Dec 2023

Bandung, West Java, Indonesia

Himpunan Mahasiswa Komputer

Staf Muda Unit Teknologi (Apr 2022 – Mar 2023)

- Collaborated with 10+ team members to develop and maintain organization web project.
- Provide technical support for the organization.

Staf Ahli Unit Teknologi (Mar 2023 – Dec 2023)

- Led a 4-member team to develop the responsive front-end of the organization's official website using Laravel, Tailwind, and Figma.
- Mentored 4 junior staff members on front-end development best practices.

CERTIFICATIONS

Dicoding
Issued Jul 2024
Expires Jul 2027

Getting Started with Java Programming

- Introduction to Java, Java Basics, Control Flow, Collection Types, Object-Oriented Programming (OOP), Common Classes, Case Study.

Dicoding
Issued Jul 2024
Expires Jul 2027

Learn the Basics of JavaScript Programming

- Introduction to JavaScript, JavaScript Fundamentals, Data Structure, Functions, Object-Oriented Programming, Functional Programming, Module, Error Handling, Concurrency, Node Package Manager, JavaScript Testing.

Dicoding
Issued Aug 2024
Expires Aug 2027

Learn Back-End for Beginners with JavaScript
- Introduction to Back-End, Node.js Basics, Building Web Services using Node.js, Deploying a Web Service using Amazon EC2, Consuming and Testing RESTful APIs using Postman.

ArutalaLab
Issued Jul 2025
Expires Jul 2028

Arutala Junior Back End Spring Boot Developer
- Refresh Java Object Oriented Programming, Overview Springboot Technology, Spring Boot & ORM Project Structure, RESTAPI, Security with JWT, File Transfer and Exception Handling, JUnit Testing, Case Study.

Dicoding
Issued May 2024
Expires May 2027

Getting Started with Python Programming
- Introduction to Python, Expressions, Actions, Control Flow, Arrays and Processing, Matrices, Subprograms, Object-Oriented Programming (OOP), Style Guide in Python, Unit Testing.

Dicoding
Issued May 2024
Expires May 2027

Learn the Basics of Data Visualization
- Introduction to Data Visualization, Pre-Visualization Data Preparation using spreadsheet, Data Transformation to Visual.

Dicoding
Issued Sep 2024
Expires Sep 2027

Learn the Basics of AI
- Introduction to Artificial Intelligence (AI), Data for AI, Introduction to Machine Learning, Introduction to Deep Learning.

Dicoding
Issued Sep 2024
Expires Sep 2027

Learn the Basics of Structured Query Language (SQL)
- Introduction to Data and Databases, Database Management Systems (DBMS), Introduction to Structured Query Language, Basic Query.

Dicoding
Issued Sep 2024
Expires Sep 2027

Learn the Basics of Data Science
- The Power of Data, Fundamental Data Science, Exploring Data Analysis, Technology and Tools Supporting Data Science, Machine Learning for Data Science.

Dicoding
Issued May 2024
Expires May 2027

Learning Machine Learning for Beginners (Beginners)
- Introduction to Machine Learning, Machine Learning Workflow, Supervised Learning, Unsupervised Learning, Feature Engineering Techniques, Overfitting and Underfitting, Model Optimization with Hyperparameter Tuning.

Dicoding
Issued Feb 2025
Expires Feb 2028

Learn the Fundamentals of Deep Learning (Intermediate)
- Introduction to Deep Learning, Neural Networks with TensorFlow and Keras, Natural Language Processing, Time Series, Image Classification, Recommendation System, Reinforcement Learning, Machine Learning Model Conversion, Generative AI.

Dicoding
Issued May 2025
Expires May 2028

Applied Machine Learning (Expert)
- Machine Learning System Design, Developing a Machine Learning Project, Case Study on Predictive Analytics, Case Study on Sentiment Analysis, Case Study on Computer Vision, Case Study on Recommendation Systems.