

Aliffian Ilham Febriyana

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Professional Summary

Fresh Graduate in Computer Science seeking an entry-level Software Developer role. Highly adaptable learner with a growing portfolio in web development using Express, Next.js, Laravel, React, and Django. Hands-on experience in applied Machine Learning and Computer Vision. Eager to apply a strong work ethic and problem-solving skills to tackle real-world challenges while expanding technical expertise under mentorship.

Education

- Dian Nuswantoro University**, Bachelor in Computer Science Sept. 2022 – Jul. 2026
5th Best Innovation University in Indonesia, 2025 ^[1]
- Overall GPA: 3.98 out of 4.00.
 - Major GPA: 3.96 out of 4.00.

Work Experience

- Freelance as a Mentor at LPK Wahana Semarang** Nov. 2025 – Now
Programming and Ms. Office
- Provided personalized one-on-one tutoring in Python fundamentals, data analysis with Python, python for machine learning, web developer, microsoft office, and C++ programming.
 - Designed and delivered customized lesson plans, hands-on exercises, and mini-projects tailored to each student's learning pace, goals, and prior knowledge.
 - Delivered detailed one-on-one mentoring and code reviews during sessions, enhancing students' debugging abilities and logical thinking..
- Teaching Assistant at AI Research and Development Group** Sept. 2024 – Jan. 2025
Associate Data Scientist
- Mentoring students in the Associate Data Scientist program.
 - Delivered lectures to 50+ students covering the full Data Science lifecycle, from data analysis and feature engineering to model evaluation.

Projects

- Ticketing Event** [\[Link\]](#)
- Engineered a full-stack platform using **Laravel** and **Blade**, featuring a responsive UI styled with **Tailwind CSS**.
 - Designed a normalized **MySQL** database schema to handle complex relationships between users, events, and ticket inventory.
 - Implemented secure authentication and Role-Based Access Control (RBAC) using **Laravel Breeze** to manage Admin and User permissions.
 - Developed a comprehensive dashboard for Event Organizers to create events, manage tickets, and history.
- Job Search Tracker API (Backend)** [\[Link\]](#)
- Engineered a robust **RESTful API** using **Express.js** and Node.js to streamline the job application tracking process.
 - Implemented comprehensive CRUD functionalities, allowing users to manage application history and monitor status changes effectively.
 - Integrated **Generative AI** services to automate personalized cover letter drafting, significantly reducing application preparation time.
 - Designed secure API endpoints to handle user data input and validation ensures data integrity.

SALGU : Google Drive Clone

[\[Link\]](#)

- Developed the frontend architecture using Next.js and TypeScript, creating a responsive interface for a cloud storage platform similar to Google Drive.
- Integrated RESTful APIs from a NestJS backend to handle secure file transmission and metadata synchronization.
- Evaluated association rules to generate personalized product suggestions and improve customer engagement.
- Implemented dynamic features: drag-and-drop uploads, folder hierarchies, and context menus.

Recommender System for Coffee Shop

[\[Link\]](#)

- Developed an Apriori-based recommender system to analyze customer purchasing patterns.
- Optimized recommendation accuracy and performance via feature engineering and preprocessing.
- Evaluated association rules to generate personalized product suggestions and improve customer engagement.
- Built an end-to-end web application using Django, featuring a user-friendly dashboard to visualize sales trends and purchasing patterns for store owners.

Virtual Smart Assistant

[\[Link\]](#)

- Developed a real-time monitoring system to track individual presence and duration within indoor environments.
- Engineered a cohesive computer vision pipeline integrating object detection and face recognition, utilizing OpenCV for preprocessing and ONNX Runtime for accelerated inference.
- Deployed on Jetson Nano with CUDA acceleration for edge inference.

Intrusion Detection in Edge Networks using Ensemble Learning

- Developed ensemble-based intrusion detection for edge networks using CIC, TON, and BOT datasets.
- Evaluated model performance across multiple datasets, achieving high detection accuracy and reduced computational cost, such as time processing and CPU temperature.

People Counting using Traditional Machine Learning and OpenCV

[\[Link\]](#)

- Built a classification model using Support Vector Machine (SVM), leveraging Local Binary Pattern (LBP) and Histogram of Oriented Gradients (HOG) for feature extraction.
- Implemented a sliding window technique to capture pixel regions and detect individuals within image frames.
- Evaluated model accuracy on various crowd density scenarios to ensure robustness and reliability.

Research Experience

International Research Collaborator (Remote)

Jun. – Dec. 2025

- Implemented a reinforcement learning-based algorithm as a Linux kernel module to optimize both I/O cache eviction and prefetching strategies.
- Integrated **RocksDB with YCSB** for evaluation on different types of workloads.
- Benchmarked the combination of I/O caching and prefetching algorithm: **FIO** and **FileBench**.

University of Chicago-Indonesia System and AI Research Training Program

Jan. – Jun. 2025

- Selected as 1 of 50 top CS students nationwide for this exclusive research training program.
- Reproduced multiple experiments from the top-tier publication *CrossPrefetch: Accelerating I/O Prefetching for Modern Storage* on Chameleon Cloud Trovi.
- Underwent intensive training in research methodologies and engagement with top-tier research.
- Conducted an extensive review of more than 20 technical papers from leading systems conferences, including OSDI, SOSP, EuroSys, and FAST.

AI Research and Development Group, Dian Nuswantoro University

Sep. 2024 – Jan. 2025

- Served as a Research Assistant focused on Artificial Intelligence and Machine Learning.
- Contributed to the development of a real-time attendance monitoring system utilizing OpenCV-based tracking to measure individual presence duration within indoor environments.
- Utilized NearMiss for dataset undersampling to achieve a lightweight model.
- Investigated the application of ensemble learning for intrusion classification in edge networks.

Awards

President of Dian Nuswantoro Computer Club

Aug. 2024 – Aug. 2025

- Elected President of the university's leading CS organization, overseeing 60+ active members.
- Led and coordinated workshops program, and development of soft skills and hard skills.
- Organize national-scale technology events and competitions.

Student Exchange Program, Gadjah Mada University - Ranked #2 in Indonesia

Jan. 2024 – Jun. 2024

- Selected as one of the top 10 students from the 2022 Computer Science cohort, and participated in the Student Exchange Program at Universitas Gadjah Mada in 2024, with a GPA of 3.70.

Excellence Program of Department of Computer Science

Aug. 2023

- Chosen as one of 50 high-achieving students out of over 800 students in the 2022 Computer Science cohort.

Certificates

OpenCV: Getting Started with Pytorch

- Completed over 13 hours of self-paced, hands-on training with practical real-world applications.
- Gained foundational knowledge in deep learning using PyTorch, covering Autograd, Multi-Layer Perceptron (MLP), Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Mask R-CNN, transfer learning, and fine-tuning.

DICODING: Fundamental Data Scientist

- Completed approximately 9.5 hours of hands-on learning focused on data science fundamentals.
- Learned end-to-end Data Science workflows: collection, cleaning, analysis, and ML using Python.

NVIDIA: Deep Learning Training

- Completed over 13 hours of self-paced, hands on training with practical real-world scenarios.
- Gained foundational knowledge in deep learning, covering neural networks, convolutional neural networks (CNNs), and recurrent neural networks (RNNs).
- Optimized model performance via data augmentation, transfer learning, and pre-trained models.

AWS: Academy Cloud Foundations

- Completed 80 hours of intensive training on Cloud Computing and AWS core services.
- Mastered AWS cloud architecture, auto-scaling, monitoring, and cost optimization strategies

OpenCV: Learn Computer Vision and AI using OpenCV

- Completed approximately 20 hours, hands-on training in computer vision and artificial intelligence using OpenCV.
- Covered a wide range of topics including image manipulation, annotation, enhancement, camera access, video processing, image filtering, feature extraction and alignment, panorama and HDR creation, object tracking, face detection, TensorFlow-based object detection, and pose estimation using OpenPose.

Technical Skills

Programming Languages: : Python, C/C++, Javascript, PHP, Typescript, SQL.

Web Frameworks: : NextJs, React, Laravel, Express, Django.

Databases: MySQL, SQLite3, PostgreSQL, MongoDB, RocksDB.

Libraries: PyTorch, ONNX, Scikit-learn, Numpy, OpenCV, Matplotlib, Pandas.

Misc: Chameleon CNVIDIA DGX A100, Raspberry Pi, NVIDIA Jetson Nano.