IRFAN MUHAMMAD GHANI

Artificial Inteligence Developer – PT. Nawa Data Solutions

A wanderer, an explorer, driven by an insatiable curiosity. A seasoned AI Developer with over two years of experience crafting efficient AI solutions. Skilled in designing and implementing robust AI backends, each line of code crafted with precision—clean, well-documented, secure, and rigorously tested. With unwavering dedication to excellence, adept at version control, and ensuring data security, I thrive both in solitude and in the collaborative harmony of a team. Guided by ambition and purpose, I bring ideas to life, transforming them into seamless, impactful innovations.

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WORKING EXPERIENCES

AI Developer

PT. Nawa Data Solutions

March 2023 – Present

- Designed and developed a real-time fraud detection system, implemented incremental learning, ensuring high model accuracy and meeting target requests per second (RPS). Implemented automated scaling to handle varying workloads, ensuring zero downtime and enabling rapid fraud detection for enhanced system reliability.
- Developed a multipurpose machine learning (ML) engine at the company, ensuring high flexibility, performance, and scalability across diverse use cases. Played a key role in optimizing system architecture and implementing advanced ML algorithms to meet business needs efficiently.
- Increased Anti-Money Laundering (AML) model accuracy by 90%, delivering significantly more reliable predictions compared to previous models.
- Designed and developed active and passive face liveness detection systems to enhance security and reliability, achieving sub-second search/recognition performance on datasets with millions of facial images.
- Developed a prototype Applicant Tracking System (ATS) for matching CVs to job postings, improving recruitment workflows and reducing time-to-hire.
- Designed and prototyped a tool for automatic web form creation using computer vision from design images, cutting form creation time by 80%.
- Reduced manual data entry efforts by 95% through the implementation of Named Entity Recognition (NER), enabling faster and more accurate data extraction. Improved OCR (Optical Character Recognition) accuracy and readability on damaged and folded documents from 65% to 95%, increasing efficiency in document processing by 30%.
- Collaborated with cross-functional teams to ensure seamless integration of prototypes into production systems, focusing on scalability and user experience.
- Researched and integrated state-of-the-art AI techniques to continuously optimize performance and align with industry standards.
- Developing a Large Language Model (LLM) with capabilities in financial analysis, tool calling, Retrieval-Augmented Generation (RAG), and multimodal processing to enhance user comprehension and streamline financial analysis in compliance with regulations.

Skills utilized: Python, SQL, Pandas, Scikit-Learn, Pytorch, Ray, SpaCy, Mediapipe, OpenCV, YOLO, ArcFace, Shapely, Google Vision, Git, Gitlab, Flask, FastAPI, Faiss, Sphinx, pytest, locust, line-profiler, memory-profiler, Computer Vision, Version Control, API Development, AI, Machine Learning, Deep Learning, Named Entity Recognition (NER), Natural Language Processing (NLP), Large Language Model (LLM), Retrieved Augmented Generation (RAG), Code Documentation, Unit testing, Performance profiling, Load testing, Scalability testing, Performance Engineering, Debugging.

Computer Vision Software Engineer

PT. Garis Posisi Nusantara

June 2021 – March 2023

- Designed and implemented Mask R-CNN for object detection on satellite images, developed tools for exporting and reporting, and reduced processing time by 80%.
- Automatically extract ship positions from Maxar satellite data to monitor, visualize, and analyze vessel compliance with regulations, enabling quick decision-making.
- Led a team to develop a Geographic Information System (GIS) project, ensuring the project was completed on time and met client requirements.
- Provided training for over 20 client staff members, helping them gain skills in GIS applications and improving their

ability to work with the system effectively.

- Collaborated with stakeholders to gather project requirements and deliver customized GIS solutions that aligned with their business goals.
- Ensured code quality and maintained project documentation for seamless team collaboration and future scalability.
- Researched and integrated the latest geospatial technologies to optimize system performance and ensure innovation in solutions.

Skills utilized: Python, Mask R-CNN, Computer Vision, Selenium, Beautiful Soup, Web Scrapping, Spatial Analysis, AI, Machine Learning, Deep Learning, Geographic Information System (GIS), Spatial Data, ArcGIS Enterprise, ArcGIS Pro, ArcGIS Developer, ArcGIS API for Python, ArcPy, Debugging.

SKILLS

- Programming Language: Python, C++.
- Version Control: Git, Gitlab, Github.
- Code Standard: Black, flake8.
- Code Documentation: docstring, sphinx.
- API Development: Flask, FastAPI.
- Distributed Computing: Ray.
- Container: Docker.
- Unit testing: pytest, unittest.
- Load testing / Scalability testing: locust.
- Performance profiling: line-profiler, memory-profiler.
- Code editor: VSCode.
- Computer Vision: OpenCV, Mediapipe, Google Vision, YOLO, ArcFace, Mask R-CNN.
- Spatial Analysis / GIS: ArcGIS Pro, ArcGIS Enterprise, ArcGIS Developer, ArcPy, Shapely.
- Data Analysis: Pandas.
- Data Visualization: Matplotlib, Seaborn.
- Web Scrapping: Selenium, Beautiful Soap.
- Machine Learning: Scikit-Learn.
- Deep Learning: Pytorch.
- Database: SQL Server, SQLite3.
- Vector Database: Faiss.
- Natural Language Processing: SpaCy.

LANGUAGES

- Indonesia
- Proficient in English

EDUCATION

TELECOMMUNICATION ENGINEER
(GPA 3.74)
Bachelor
INSTITUTE TECHNOLOGY TELKOM PURWOKERTO
2015 – 2019
Final Project:
License Plate Number Recognition Based on Template Matching and Cosine Similarity (Matlab)
Committee, Speaker, and Trainer Experiences:

- **Trainer in Drive Test Engineer, Training for Vocational High School Students (2018)**
  Provides theoretical and practical courses for 2 days about drive test engineer to vocational high school students.
- **Speaker in Electrical Circuit Course Sharing Session (2018)**
  Provide learning subjects about electrical circuits to college students, and provide examples of questions and answers to face the midterm exams.
- **Lab Assistant (2016 - 2019)**
  Assistant in several lab work subjects: Algorithm and Programming, Advanced Programming, Microprocessor, Electrical Circuits, Cellular, Digital Engineering.

Campus Organizations:

- **Hexacomm Cellular Research Group (2017-2018)**
  Public Relationship and Coding Researcher.
  Made several research projects and training about cellular technologies, 3G, 4G, and Signal Processing.
- **IPTEK Robotic IoT Team (2016-2018)**
  Member in IPTEK and Leader in IoT Team.
  Learn and share new things about robotic and IoT, Participate in several Robotic and IoT competitions.

Competition and Achievements:

- **Finalist E-Time IoT Competition 2017**

Leader and Embedded Programmer C, C++.
Automatic Plants Watering and Monitoring with Wireless Sensor Network.

- **Participant Gemastik UI 2017**
  Designer and Embedded ProgrammerC, C++.
  Landslide Detector with Wireless Sensor Network
- **Fully Funded PKM Karsa Cipta 2016**
  Designer and Embedded Programmer (Python).
  Traffic Light Security with Raspberry Pi and IP Cam.

Community Organization:

- **Karang Taruna (2021)**
  Treasurer, manage organization cash flow.
  Did several community activities like community services, etc.