HASBY FAHRUDIN

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SKILLS

· AI Agent | Machine Learning | Computer Vision | Cloud Architecture | Full-Stack Development | Project Management
· Python | C++ | C# | JavaScript | HTML | CSS | Docker | Git | FastAPI | Django | .NET | JIRA
· TensorFlow | PyTorch | Scikit-learn | Transformers | LangChain | spaCy | Milvus | Pandas | OpenCV | AWS

INDUSTRY EXPERIENCE

Lead AI Engineer   **May 2023 - Present**
AIBrain, Inc   **Seoul, South Korea**
· Delivered an enterprise LLM-based AI Agent solution on time, serving as both project manager and tech lead.
· Increased AI Agent resolution rate 2.5x by optimizing RAG knowledge retrieval via structured dataset curation, data sanitation, semantic rephrasing, and meta-tagging.
· Led a cross-functional lean engineering team (3-7 members) across VR, Web, and AI stacks.
· Enhanced product delivery speed and team efficiency by establishing AGILE cycle and clear documentation standards.
· Scaled video analysis pipeline with a queue-based system and containerization, increasing capacity from 3 to potentially unlimited concurrent users.
· Secured pilot engagement with 3 pro football teams by architecting a MVP of data-driven match analysis features.
· Achieved 7th place in SoccerNet 2023 jersey tracking challenge in a week using input processing-driven solution.

AI Engineer   **May 2021 - May 2023**
Crosscert, Inc   **Seoul, South Korea**
· Enabled informed decision-making for company stakeholders on AI products through proofs-of-concept leveraging AI technology (i.e GANS, RL, and Imitation learning) on Music, NFT, and Football domains.
· Implemented a fast artifact detection system using feature-based pattern recognition, matching baseline performance while reducing computational costs and large dataset requirements.
· Supervised and mentored 2-3 interns on AI-driven projects, providing guidance and ensuring effective project progress.

Software Engineer   **Jun 2019 - Feb 2020**
IDEMIA   **Jakarta, Indonesia**
· Enhanced system reliability for Remote OS Library Loader leading to 30% decrease in production issues.
· Ensure 100% delivery time for software testing tasks.

RESEARCH EXPERIENCE

Master's Research Assistant   **Mar 2020 - Sep 2022**
Wireless Network Lab, SeoulTech   **Seoul, South Korea**
· Achieved ~10% accuracy improvement in MAML for few-shot head movement prediction in VR tasks, optimizing computation time with Meta-Curvature and Layer-Specific Learning Rates (LSLR).
· Improved real-time VR head movement prediction accuracy by ~12% using an ensemble learning approach.
· Benchmarked meta-learning techniques across diverse datasets, creating a reference guide on their application and performance.

Bachelor's Research Assistant   **Sep 2018 - May 2019**
Intelligent Electronics Lab, ITS   **Surabaya, Indonesia**
· Developed a lightweight facial emotion classifier using hybrid feature extraction, achieving ~70% accuracy with real-time prediction on edge devices.
· Designed and developed an assistive device for visually impaired users to perceive facial expressions, achieving 79% accuracy in real-world testing.

EDUCATION

Seoul National University of Science and Technology   **Mar 2020 - Sep 2022**
M. Sc., Electrical and Information Engineering   **Seoul, South Korea**
· Thesis: Combining Improvements in Model-Agnostic Meta-Learning.
· GPA: 4.25 of 4.50.

Institut Teknologi Sepuluh November   **Aug 2015 - Jul 2019**
B. Eng., Electrical Engineering   **Surabaya, Indonesia**
· Thesis: Deep learning based facial expressions recognition system for assisting visually impaired persons.
· GPA: 3.3 of 4.0

PROJECTS

Facex: Lightweight, High-Performance Facial Expression Classifier **[link]**
· Python library for detecting faces and classifying emotions in images lightweight, efficient threading and object pooling for concurrent processing making it suitable for high-performance applications.

Football Defensive Ghosting Agent using Imitation Learning **[link]**
· This project applies the principles from the paper *Coordinated Multi-Agent Imitation Learning* and adapts them for creating defensive player agents to imitate real-world tactics in football.

T-Rex Run AI with Deep Reinforcement Learning **[link]**
· This project exploring AI capability learns to interpret the environment visually, without relying on direct access to game state variables. This approach provides a more challenging and human-like learning scenario for the agent.

Dockerize Llamafile **[link]**
· Containerized version of the LlamaFile to make it easy to deploy and manage.

Meta-Learning Algorithms Implementation **[link]**
· implementations of popular meta-learning algorithms to help model to adapt new tasks quickly with only a small data

PUBLICATIONS

SoccerNet 2023 Challenges Results **[link]**
CVPR 2023
· Contributing on proposing pipe-line to extract jersey number of each player on football match broadcast video.

Deep Learning Based Facial Expressions Recognition System for Assisting Visually Impaired persons **[link]**
Bulletin of Electrical Engineering and Informatics 2020
· Developed a deep learning-based facial expression recognition system on a wearable device to help visually impaired individuals interpret facial expressions during communication

OTHERS

· Peer-reviewed papers for **CVSport** 2024 and **ICANN** 2024.
· Represented SAIVA at **Sports Innovation** 2024 (Düsseldorf, Germany) and **VIVATECH** 2024 (Paris, France).
· **Speaker** Regional Scrum Gathering℠ Seoul 2024, Enhancing Product Management with ChatGPT