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

HIGHLIGHTED PROJECTS

AI-Powered Tech Support Agents **[link]**
- An enterprise solution powered by LLM-RAG to deploy tech support AI agent.

SAIVA: Sport AI Virtual Assistant **[link]**
- Designed to give teams and athletes a competitive edge, SAIVA is the brainchild of a collaboration between AI and VR development experts, professional football coaches, and sports scientists.

Head Motion Prediction in Online VR **[link]**
- Enhanced an online VR environment using Meta-Learning and ensemble classification for quick, accurate head motion prediction with minimal calibration.

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.

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 knowledge restructurization.
- 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.

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.
- Engineered 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

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