ROHIT THAKUR
Seoul, South Korea | +82-10-2051-5650 | trohit920@gmail.com

LinkedIn: www.linkedin.com/in/rohit-thakur-141287131

GitHub Profile: https://github.com/trohit920

PROFESSIONAL SUMMARY

Highly accomplished AI Engineering Manager with 6+ years of comprehensive experience in solving complex technical challenges and implementing innovative AI solutions. Proven track record of driving technological innovation, integrating advanced deep learning technologies, and delivering high-impact results across diverse projects. Expert in Agile methodologies (SAFe) with a strong focus on operational efficiency, strategic AI implementation, and cross-functional team leadership.

TECHNICAL SKILLS

- **Programming Languages**: Python, C++, SQL, R, Java
- **AI/ML Frameworks**: TensorFlow, PyTorch, Keras, OpenCV, ONNX
- **Deep Learning Libraries**: Pandas, scikit-learn, MediaPipe, YOLOv5/v8
- **Development Tools**: Git, Docker, MLFlow, Jupyter, Spark, Kafka, Hadoop
- **Cloud Platforms**: Azure Machine Learning, Google Colab, Kubernetes, Databricks
- **Advanced Techniques**: LSTM Autoencoders, Energy Optimization, Predictive Maintenance

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PROFESSIONAL EXPERIENCE

AI Engineering Manager

OpenSysNet Co., Ltd. | Pangyo, Seoul, South Korea *May 2022 - Present*

Leadership & Strategic Initiatives

- Mentored and led a team of 10+ AI engineers, fostering innovation and professional growth
- Implemented Scaled Agile Framework (SAFe), improving project delivery and team collaboration
- Conducted comprehensive code reviews and provided technical guidance
- Developed and executed strategic AI initiatives aligned with business objectives

Significant Projects and Achievements

1. **Pantograph Monitoring System (PMS)**
    - Led development of real-time fault detection system for railway infrastructure
    - Achieved 95.5% accuracy in detecting arcing and contact point misalignments
    - Integrated YOLOv8 and edge processing for proactive maintenance
    - Reduced potential safety risks and maintenance costs
2. **Golf Swing Analysis System**
    - Developed advanced deep learning model for comprehensive golf swing detection
    - Implemented cutting-edge computer vision techniques
    - Measured accuracy using precision metrics including:

        - Mean Per Joint Position Error (MPJPE)
        - Precision Confidence Evaluation (PCE)
    - Created a sophisticated system for athletic performance tracking
3. **Server Fan Speed Optimization Project**
    - Designed innovative energy-efficient optimization algorithms
    - Leveraged advanced machine learning techniques including:
        - Gradient Boosting algorithms
        - LSTM (Long Short-Term Memory) models
    - Developed predictive models for fan speed management
    - Implemented correlation analysis for energy consumption
    - Significantly improved server energy efficiency and operational performance
4. **Sorting Robot Vision System**
    - Designed and implemented AI-powered object detection system
    - Achieved 99.5% mAP@50 accuracy in object recognition
    - Integrated with Mint Robot for automated picking processes
    - Improved manufacturing operational efficiency by 20%
5. **Energy Consumption Prediction and Anomaly Detection**
    - Developed LSTM-based deep learning models for server systems and smart buildings
    - Deployed LSTM Autoencoder for anomaly detection using Mean Squared Error (MSE) analysis
    - Achieved 12.3% Mean Absolute Percentage Error (MAPE) in prediction
    - Identified and mitigated energy inefficiencies
6. **Face, Fire, and Hand Detection System**
    - Led development of comprehensive deep learning detection system
    - Implemented high-accuracy detection across multiple categories
    - Utilized advanced computer vision techniques
7. **Additional Specialized Projects**
    - Developed OCR character recognition for temperature detection from drone camera feeds
    - Created people counting software using indoor overhead CCTV cameras
    - Engineered software for deliberate face masking and unmasking applications

Research & Development Engineer
Pittasoft Co., Ltd. | Seoul, South Korea | Sept 2017 - Apr 2022

Advanced Driver Assistance Systems (ADAS) Development

- Led forward vehicle detection and traffic light recognition using OpenCV
- Developed Forward Vehicle Start Alarm system with high precision
- Implemented advanced computer vision algorithms

Driver Monitoring System (DMS)

- Trained TensorFlow-based YOLO models for driver distraction detection
- Enhanced vehicle safety through intelligent monitoring techniques
- Improved driver awareness and accident prevention strategies

Image Processing and Segmentation

- Applied VGG-based U-Net for high-accuracy medical image segmentation
- Developed sophisticated image processing algorithms

- Contributed to advanced semantic segmentation techniques

EDUCATION

- **M.S. in Electrical Engineering & Computer Science**, GIST, South Korea (2017)
    - Specialization: Artificial Intelligence and Machine Learning
    - Advanced research in deep learning and computer vision
- **B.Tech. in Electronics and Communication Engineering**, Green Hills Engineering College, Himachal Pradesh, India (2014)
    - Focused on signal processing and communication technologies

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PUBLICATIONS AND RESEARCH

1. "Energy Consumption Prediction Using LSTM Models" - International Conference on Machine Learning and Applications (ICMLA)
2. "Concurrent Food Localization and Recognition" - Korean Institute of Communications & Information Sciences (KICS), 2017
3. "Augmentation of RGB Dataset for Improved Performance on Infrared Classifier" - Electronics & Information Communications Conference, 2016

LEADERSHIP & MANAGEMENT SKILLS

- Strategic project planning and execution
- Agile methodology implementation (SAFe)
- Cross-functional team mentorship
- Technical problem-solving
- Stakeholder communication
- Performance development and coaching

PROFESSIONAL ACHIEVEMENTS

- **Innovation Award:** OpenSysNet for Pantograph Monitoring System development
- **Employee of the Year:** Pittasoft for outstanding ADAS/DMS contributions
- Active member of IEEE
- Regular participant in AI and machine learning conferences and workshops

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PROFESSIONAL DEVELOPMENT

- Continuous learning in emerging AI technologies
- Participated in advanced machine learning workshops
- Stayed updated with latest developments in deep learning and computer vision

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LANGUAGES

- **English:** Fluent
- **Korean:** Professional Working Proficiency
- **Hindi:** Native