Min Seo Kim

AI Research Engineer

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Experience

AI Research Engineer

Upstage *May 2025 - Aug 2025*
Domain-Specific Post-Training for LLMs

- Designed ML product cycle for enhancing Schema Following capabilities of small LLMs in on-premise environments
- Developed benchmarks with custom metrics and datasets for objective evaluation of Schema Following performance
- Implemented reinforcement learning (RLOO) framework for Schema Following training with comprehensive ablation studies
- Achieved 2-10 percentage point performance improvements in open-weight LLMs, demonstrating the necessity of domain-specific post-training

AI Bootcamp Participant

Naver Connect Foundation - Boostcamp AI Tech 7th *Aug 2024 - Feb 2025*
NLP Track

- Developed Korean-optimized LLM for solving Korean SAT problems in Korean Language and Social Studies
- Applied PEFT (LoRA) and quantization techniques to utilize models up to 32B parameters under resource constraints
- Achieved 10+ percentage point performance improvement over 7B baseline models
- Implemented DeepSpeed, Gradient Checkpointing, PTQ, and QAT for enhanced inference speed and memory efficiency

Undergraduate Research Assistant

Network Science Laboratory, The Catholic University of Korea *Jul 2023 - Jul 2024*

- **Non-destructive Water Pipeline Corrosion Assessment:** Developed CNN models for measuring iron oxide concentration in water pipes using ultrasonic data
- Preprocessed time-series ultrasonic data using Fourier Transform and contributed to experimental sections of research paper
- **Non-invasive Blood Glucose Measurement:** Researched ultrasonic-based glucose concentration measurement in blood vessels
- Improved model performance by 20% through data noise reduction in FFT preprocessing and achieved 7pp F1-Score improvement using margin-based loss

Education

The Catholic University of Korea
B.S. in Information and Communication Electronics Engineering
Double Major: Computer Science and Engineering
GPA: 4.31/4.5 (**Major GPA:** 4.36/4.5)
Class Rank: #1 (Summa Cum Laude)
Expected Graduation: February 2026

Publications

Internal pipe corrosion assessment method in water distribution system using ultrasound and convolutional neural networks
Nature npj Clean Water (IF: 10.5, JCR 2023 Top 1.2%)
`https://www.nature.com/articles/s41545-024-00358-x`

Research Interests

Large Language Model Post-training • Model Optimization & Compression • Domain-specific AI Applications • Efficient Training Methodologies • Reinforcement Learning for LLMs • Biomedical Signal Processing

Certifications

AWS Machine Learning - Specialty *Apr 2025*
Amazon Web Services

AWS Certified Machine Learning Engineer - Associate *Apr 2025*
Amazon Web Services

PCCP (Python) Level 5 Master *Aug 2025*
Programmers

AWS Certified DevOps Engineer - Professional *Aug 2025*
Amazon Web Services

Awards & Achievements

Amazon Q Developer Hackathon Competition - Amazonian's Choice Award (3rd Place) *Jun 2025*
Amazon Web Services
Capturing audience appreciation and engagement

Pixel Data Analysis Competition - Excellence Award *May 2024*
The Catholic University of Korea
CNN Model Development for PCB Defect Detection

PRE CORONA AI Hackathon - Outstanding Award *Jan 2021*
The Catholic University of Korea
Voice API-based Meeting Minutes Summarization Program