Jooho Kim

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Education

Seoul National University Seoul, South Korea
BS in Electrical and Computer Engineering, Mathematical Science *Mar. 2021 –*

- Current GPA: 3.62/4.30 ($\approx$ 3.37/4.00, 93.2%)
- Relevant Coursework: Probability and Random Processes, Linear Algebra, Complex Analysis, Digital Signal Processing, Communications

Experience

Republic of Korea Army — Thermal Observation Device Operator (TOD) Jul. 2022 – Sep. 2023
Mandatory Military Service

- Operated infrared (IR) thermal imaging systems for real-time surveillance and anomaly detection
- Performed calibration, diagnostics, and preventive maintenance of electro-optical equipment
- Led 4–5 personnel during monitoring operations under time-critical conditions
- Designed and deployed a JavaScript-based scheduling system to automatically assign 20+ personnel across 12 daily shifts
- Modeled availability using a constraint matrix and implemented randomized conflict-avoidance logic, eliminating manual scheduling

Research

Undergraduate Thesis: ISI Pre-equalization for mmWave MIMO Systems Jun. 2025 – Dec. 2025

- Modeled ultra-wideband mmWave MIMO channels and inter-symbol interference using linear signal processing theory
- Designed and implemented an ISI pre-equalization scheme in MATLAB
- Ran Monte Carlo simulations to evaluate performance under realistic multipath channels
- Improved SNR performance compared to conventional equalization baselines

Projects

AI Product Recognition Competition — Encouragement Award | *Deep Learning, Python* Jul. 2024

- Developed a deep learning-based computer vision model for automated product recognition in unmanned retail environments
- Implemented data preprocessing, augmentation, and CNN/Transformer-based architectures
- Optimized training through hyperparameter tuning and ensemble methods
- Received Encouragement Award

Technical Skills

Programming Languages: C/C++, Python, JavaScript, MATLAB
Developer Tools: Git, LaTeX
Languages: Korean (Native), English (Fluent)