

# Seungwon Kim

<http://seungwon1.github.io>

Email: pennymagic156@gmail.com

Mobile: +82-10-4810-7701

**Summary:** AI/ML Engineer specializing in large-scale simulation, optimization, and production ML systems deployed in mission-critical environments.

## PROFESSIONAL EXPERIENCE

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- Incheon International Airport Corporation (IIAC)** Incheon, South Korea  
Feb. 2025 – Present  
*AI/ML Engineer, Operational DX Team*
  - Enhanced and deployed a passenger flow prediction and discrete-event simulation platform supporting 4 internal operational teams across 500+ daily flights.
  - Improved simulation performance to complete full-day airport simulations in 20 seconds; achieved 92% accuracy in peak waiting passenger prediction and 85% accuracy in maximum queue length estimation.
  - Deployed system during 2025 peak seasons (summer, winter, Chuseok); contributed to maintaining total departure processing time at 51 minutes during record-high passenger volume (ICAO standard: <60 minutes).
  - Implemented production infrastructure using FastAPI, Redis workers, PostgreSQL, React dashboard, and Docker deployment on air-gapped RHEL servers with Prometheus/Grafana monitoring.
- Incheon International Airport Corporation (IIAC)** Incheon, South Korea  
Mar. 2024 – Feb. 2025  
*AI/ML Research Engineer, Airport Research Institute*
  - Designed and implemented the core discrete-event passenger flow simulation engine modeling end-to-end airport departure processes.
  - Developed foundational simulation modules capturing passenger arrival patterns, check-in dynamics, and queue evolution.
  - Estimated passenger check-in show-up distributions from observed completion data using distributional optimization (Wasserstein distance) solved via L-BFGS-B.
- Incheon International Airport Corporation (IIAC)** Incheon, South Korea  
Dec. 2015 – Jan. 2025  
*Electrical Engineer, Aeronautical Ground Lighting & Airport Electrical Systems Teams*
  - Maintained mission-critical airfield electrical infrastructure supporting safe airport operations.

## PUBLICATIONS

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- Revisiting Pretraining with Adapters**  
Seungwon Kim et al.  
ACL 2021 Workshop on Representation Learning for NLP (Repl4NLP). Best Paper Award.
- Using Pre-Trained Transformer for Better Lay Summarization**  
Seungwon Kim.  
EMNLP 2020 Workshop on Scholarly Document Processing.

## EDUCATION

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- Georgia Institute of Technology** Atlanta, GA  
Jan. 2019 – Dec. 2020  
*Master of Science in Computer Science; GPA: 4.0/4.0*
- Kyungpook National University** Daegu, South Korea  
Mar. 2009 – Feb. 2016  
*Bachelor of Engineering in Electronics; GPA: 3.3/4.0*

## TECHNICAL SKILLS

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Languages: Python, TypeScript/JavaScript, C++, SQL

Backend: FastAPI, Flask, Redis, PostgreSQL

ML/AI: PyTorch, TensorFlow, Scikit-learn, XGBoost

DevOps: Docker, Linux/RHEL, Prometheus, Grafana

Competitive Programming: Meta Hacker Cup 2023 Round 2 (Top 3.7%), Codeforces Expert