

Wonjun Choi

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EDUCATION

- Master of Engineering Material Science and Engineering, Imperial College London, United Kingdom** 09/2018 – 09/2022
- Awarded Upper Second Class Honours (GPA 3.7/4.0)
 - Combined bachelor's and master's degree (MEng)
 - Related Modules: Computing, Materials modelling, Entrepreneurship

- International Baccalaureate Diploma Programme, North London Collegiate School Jeju, Republic of Korea** 09/ 2016 – 07/2018
- Overall Score: 42 / 45 (2018)

EXPERIENCE

- Assistant Research Engineer (full-time), E8IGHT Co., Ltd., Republic of Korea** 03/2023 – Ongoing
- Developed landslide prediction models with 92% accuracy and x6000 speedup.
 - Built AI-SPH solvers for disaster prevention in Cheongdungsan's digital twin.
 - Created models for manhole backflow prediction, improving flood risk management.
 - Accelerated flood simulations for smart cities, achieving x120 faster predictions.
 - Published research on subway crowd simulation for density management.

- Research Engineer (intern), SW R&D Department,** 10/2020 – 10/2021
Korea Electronics Technology Institute, Republic of Korea
- Automated literature collection using Python, Selenium, and BeautifulSoup.
 - Implemented NLP techniques for classification using TF-IDF and fine-tuned BERT models.

PROJECTS

- Research Project: “Machine learning properties of point defects”, Imperial College London** 09/2021 – 07/2022
- Awarded *first class*, supervised by Professor Aron Walsh, Imperial College London
 - Developed Random Forest and Gradient Boosting models to predict defect properties in metal oxides.
 - Generated datasets from DFT defect calculations and extracted features using Matminer and PyMatgen.
 - Achieved high predictive accuracy and optimized models by comparing feature selection methods.

- Personal Project: Real-Time Fetal Monitor Tracking System** 01/2023 – 02/2023
- Built a YOLOv4-based system to track fetal monitors, processing live data at 30 fps with a mobile camera.
 - Streamlined data extraction using OpenCV and TensorFlow for real-time object detection.

- Modelling Project: “Heat-Mass Transfer Simulation: Exhaust Pipe Scenario”, Imperial College London** 01/2020 – 03/2020
- Awarded *first class*, supervised by Dr.Khalil Rhazaoui, Imperial College London
 - Modeled heat flow in a discretized catalytic converter using numerical solutions for heat transfer equations.

- Modelling Project: “Simulation of 2D/ 3D Binary Substitutional Alloys”, Imperial College London** 11/2019 – 03/2020
- Awarded *first class*, supervised by Professor Andrew Horsefield, Imperial College London
 - Simulated binary alloys using Monte Carlo in Python, analyzing the effects of temperature, composition, and interaction energies.

SKILLS

- Programming: Python, PyTorch, JAX, C/C++, LATEX, CUDA, MATLAB, Shell script/Linux
- Languages: English (*Fluent*), Korean (*Native*), Spanish (*Basic*)