

Banseok Kim

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Education

Yonsei University, BS in Electrical Engineering Mar 2019 – Present

- GPA: 3.79/4.3(Overall), 3.89/4.3(Major)
- **Coursework:** Computer Vision, Deep Learning Lab, Basic Artificial Intelligence, Biomedical Imaging, Reinforcement Learning, Optimization, Linear Algebra, Data Structure and Algorithms, Quantum Mechanics

Research Interest

Dataset Distillation

- Conducting experiments to mitigate saturation of performance in high IPC(image per class) settings by designing new algorithm for Dataset Distillation

Medical Imaging

- Developed interest in artifact reduction or denoising in CT reconstruction images and various practical AI application in Medical Imaging AI field

Experience

Research Intern in Computer Vision Lab, Advisor: Prof. Bumsub Ham Jun 2024 – Present

- Currently working on Electrical Engineering graduation coursework with research focus on dataset distillation.
- Conducting experiments with team member on various SOTA code, incorporating novel ideas, under the supervision of Professor Bumsub Ham
- Gained extensive experience in reviewing and analyzing multiple papers in the field, and regularly presented them

LAN Network Technician, in **Korean Air Force** (19th Flighter Wing) Feb 2021 – Nov 2022

- Maintained and constructed LAN connections and participated in a national optical fiber connection competition in Korean Air Force

Course Projects

Continual Learning using Knowledge Distillation Deep Learning Lab, Final Project May 2024

- Conducted project on training new tasks to already trained network while not forgetting previously trained tasks
- Tools Used: Pytorch, Python

CT image reconstruction Biomedical Imaging, Final Project May 2023

- Conducted project on computing sinogram image from phantom data and reconstructing corresponding image
- Computed sinogram images under ill-posed conditions such as, object shift, and analyzed the quality of the reconstructed images
- Tools Used: Matlab

Handling cache operation with victim cache Computer Architecture, Final Project May 2024

- Annexed victim cache to cache operation code in computer architecture simulation
- Tools Used: C++

Face Localization Basic Artificial Intelligence, Final Project Nov 2023

- Minimized MSE loss of rectangular localization face boundary for Head Pose Image Dataset
- Tools Used: Pytorch, python

Designing passband transmission Communication Theory, Final Project May 2023

- Designed detailed passband transmission process from scratch, including symbol mapping, pulse-shaping, modulation/demodulation, and symbol detection
- Tools Used: Matlab

Audio Equalizer Fundamentals of Analog Experiments, Final Project Nov 2023

- Designed and built audio equalizer circuit on breadboard, including custom push-pull amplifier using BJTs
- Performed soldering and assembly of components on PCB

Deep Q-learning on Grid World Reinforcement Learning, Final Project May 2024

- Conducted simple project on optimizing policy for agent reaching goal in grid world with obstacles with Deep Q-learning
- Tools Used: Pytorch, Python

Language

TOEIC: 950/990 Jul 2024

TOEFL IBT: 111/120 Jan 2018

- Studied abroad in International school located at Vietnam for 7 years

Skills

Certificate: ADsP, Advanced Data Analytics Semi-Professional Certificate May 2022

- Certified through comprehensive exam covering data understanding, data analytics, and business planning

Award: Python Data Analysis Competition, 2nd Place, Yonsei University Jan 2023

- Analyzed key factors influencing YouTube's recommendation algorithm using automated web scraping techniques
- Achieved 2nd place out of 30 participating teams

Coding: Python, Pytorch, Matlab, Verilog, C++