YE JIN JEON

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EDUCATION

University of California, San Diego   **Sep 2022 – June 2024**
Master of Science, Computer Science in Artificial Intelligence   *San Diego, USA*
- Courses: Probabilistic Reason and Learning, Search and Optimization, Unsupervised Learning, Deep Generative Models, Recommender System, Database system for ML, Convex Optimization, Graduate Networked System

Ewha Womans University   **Mar 2017 – Feb 2022**
Bachelor of Science, Double Major (3.6/4.0)   *Seoul, Korea*
- Majors: Biomedical Engineering, Computer Science and Engineering | Honors: Dean's List (2017, Spring 2018)

WORK EXPERIENCES

Machine Learning Researcher | University of California, San Diego   **March 2023 – Present**
- Researching to develop a general search algorithm that enables faster optimal decision-making on various **combinatorial optimization** problems
- Taking a learning-based approach with **mixed integer programming** to efficiently search large solution space

Software Engineer Intern | Tanker Inc.   **Mar 2021 – June 2021**
- Led the ML systems development, improving old systems by finetuning and adopting modern ML-based solutions
- Reduced errors in PDF reader by developing a **PDF-to-Excel converter** with **OCR deep learning model**
- Delivered 5% accuracy improvements on **XGBoost** algorithm for **real estate price prediction** by feature engineering
- Designed the **employee reassignment system** for Industrial Bank of Korea using **Google OR tools** and **reinforcement learning**

Machine Learning Researcher | Korea University   **May 2020 – Sep 2020**
- Researched collateral status image generation of stroke patient brain MRIs through 3D multitask learning. Presented work at SPIE Medical Imaging 2021
- Implemented **image-to-image translation** with 3D U-net and improved the performance by adding an ordinal regression task into the final layer of the U-net

Research Intern | Electronics and Telecommunications Research Institute   **July 2019 – Aug 2019**
- Developed SSD, YOLO, and RCNN based **object detection** models to detect smugglings from airport security images
- Implemented a masking algorithm to create training labels using Python libraries for image processing

Research Intern | Ewha Womans University   **Mar 2018 – July 2019**
- Led research on CNN based **lesion classification** in wireless capsule endoscopy, and gave oral presentation at IWAIT-IFMIA 2019

KEY PROJECTS

Surfstore: Fault-Tolerant Cloud-based File Storage System   **Jan 2023 – March 2023**
- Developed a Dropbox-like fault-tolerant **cloud file storage system** using **Go language** that syncs files to/from the cloud and ensures fault tolerance using RAFT protocol

Emotional Text-to-Speech   **Sep 2022 – Dec 2022**
- Implemented **Text-to-Speech models** to convert transcript to speech in the desired emotional tone in **PyTorch**
- Trained a transformer-based encoder in a supervised manner to generate combined embeddings of text and emotion encoding

Recipe Recommender   **Sep 2022 – Dec 2022**
- Executed sentiment analysis on user reviews and predicted user ratings on recipes through **collaborative filtering**

CONFERENCE PAPERS

- H.L. Le, **Y. Jeon**, H.G. Roh, H.J. Kim, and J.T. Kwak. "3-D multitask deep neural networks for collateral imaging from dynamic susceptibility contrast-enhanced magnetic resonance perfusion." SPIE Medical Imaging 2021: Computer-Aided Diagnosis (SPIE), 2021.[paper]
- **Y. Jeon**, E. Cho, S. Moon, S.H. Chae, and J.H. Choi. "Deep convolutional neural network-based automated lesion detection in wireless capsule endoscopy." Joint International Workshop on Advanced Image Technology (IWAIT) and International Forum on Medical Imaging in Asia (IFMIA), 2019.[paper]

TECHNICAL SKILLS

Languages: Python, Java, C, Go, GitHub, Docker, Linux
Frameworks: PyTorch, TensorFlow, Gurobi, Z3, Google OR-Tools