

Grace (Unnseo) Park

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EDUCATION

Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

Master of Science in Computer Science

Expected Graduation: May 2025

Bachelor of Science in Artificial Intelligence

May 2024

Coursework: Intro to Deep Learning, Natural Language Processing, Algorithm Design and Analysis, Intro to Product Management, Intro to Machine Learning, Computational Perception, Modern Regression, Functional Programming

WORK EXPERIENCE

Data Interaction Group, CMU | Research Assistant

Jan 2023 - Current

- First Author of "How Consistent are Clinicians? Evaluating the Predictability of Sepsis Disease Progression with Dynamics Models" **presented** at ICLR 2024 Workshop TS4H ([link to paper](#))
- Designed and trained transformer-based dynamics models using Python and Pytorch, experimenting with varying hyperparameters to optimize model performance and fine-tune large models for improved accuracy.
- Developed and implemented experiments using dynamics models to evaluate the feasibility of predicting disease severity changes based on clinician actions using **reinforcement learning** with the MIMIC-IV dataset.
- Applied advanced data preprocessing techniques to impute missing data and prepare the dataset for modeling.

Carnegie Mellon University | Teaching Assistant

Aug 2023 - May 2024

- Led weekly recitations and hosted office hours for 15-210: Parallel and Sequential **Data Structures and Algorithms**.
- Managed an online message board, providing assistance to students.

Red Hat | Software Engineer Intern

May 2023 - Aug 2023

- Enhanced the OpenStackSDK Manila API by integrating support for the share-metadata resource. Contributed to **large-scale open-source** projects in a collaborative development environment.

Cryptolab | Research Engineer Intern

July 2022 - Aug 2022

- Implemented **machine learning optimizers** (SGD, Adam, Adagrad) for regression models on homomorphically encrypted data, improving the training speed of regression models by 3.6% and achieved 95% accuracy.

PROJECTS

MyTorch | Course Project (Intro to Deep Learning)

2024

- Building a custom deep learning library, implementing components that comprise Multilayer Perceptron (MLP), Convolution Neural Network (CNN), Recurrent Neural Network (RNN) and Masked Self Attention

Kaggle Competitions | Course Project (Intro to Deep Learning)

2024

- Developed a MLP to create a frame-level phonetic transcription of raw Mel Frequency Cepstral Coefficients (MFCCs).
- Created a CNN for recognizing faces in images, ensuring position invariance for face classification.
- Worked on face classification and verification tasks to determine if two face images belong to the same person.
- Trained attention-based (transformer) models to transduce speech recordings into word sequences.

Anyways... | Hackathon Project (TartanHacks)

2023

- Designed an algorithm for detecting off-topic sentences using keyword similarity which achieved 90% accuracy.
- Uses real time speech-to-text technology and keyword analysis using the spaCy natural language processing library.

LEADERSHIP

CMU Korean Student Association | Board Member

Sept 2021 - May 2024

- Planned and organized monthly events to promote Korean culture and history.

AI MakerSpace, CMU | Undergraduate Assistant

Sept 2021 - May 2022

- Set up various robots such as Misty and Kinova robotic arm in the AI makerspace and prepared for opening.
- Constructed manuals on how to use each robot and provided support for students using the resources.

SKILLS

Programming Languages: Python, C/C++, SML, R, Java

Technologies: Pytorch, TensorFlow, Pandas, NumPy, Matplotlib, Google Cloud Platform, LaTeX, Git, Vim, Unix