Jeongwook (Luke) Yun

www.linkedin.com/in/jeongwook-yun

EXPERIENCE

Massachusetts Institute of Technology – *Research Intern;* Boston, Massachusetts (Remote) February 2024 - Present

- Working with the Fluid Interfaces group in the MIT Media Lab on the AttentivU project, a pair of smart glasses with cutting-edge brain-sensing and eye-tracking technologies.
- Developing EEG signal processing system that utilizes notch and band pass filters, arithmetic algorithm for normalization and mean-shifting, and machine learning model that classifies the types of neural oscillations
- Developing deep learning algorithm that detects synchronization patterns from the neural oscillations from EEG data

Harvard Medical School – *Medical Artificial Intelligence Intern;* Boston, Massachusetts (Remote) August 2023 - Present

- Working with the Hale Family Center for Pancreatic Cancer Research within the Dana Farber Cancer Institute under investigator Dr. Michael H. Rosenthal.
- Developing deep learning models for anatomy localization to classify images of various modalities based on the image content and location relative to a reference point with **Python.**
- Analyzing electronic health records of pancreatic cancer patients with Natural Language Processing techniques to finds trends within patient health before the initial diagnosis of cancer.

New York University School of Global Public Health – *Working Group Member;* New York, New York June 2023 - Present

- Co-authored a paper submitted to the JAMA journal about the measurement of discrimination in healthcare settings under primary investigator Dr. Jose Pagan.
- Researched the application of artificial intelligence bots in the healthcare setting with focus on medical translations in various NYC hospitals to improve medical literacy.
- Researching and measuring discrimination experienced by patients in hospital settings through development of novel discrimination measurement scale.

Dynamic Medical Image and Computing Lab – *Research Assistant;* Austin, Texas November 2022 – April 2023

- Developed deep learning models to segment lung tumors from CT images for the lung using **Python** with **PyTorch**, **TensorFlow**, and **Keras** frameworks, achieving accuracies above 90 percent.
- Applied and developed various ML/DL models to extract material parameter values from a dataset of stress-strain graphs of material using **PyTorch** framework.

Merck – *Artificial Intelligence/Machine Learning Intern;* Rahway, New Jersey June 2023 – August 2023

- Developed a multi-label classification machine learning model to classify data from checkpoints in clinical trials using **PyTorch** framework in **AWS Cloud**, achieving an accuracy of 92 percent.
- Developed a widely implemented algorithm that identifies errors in clinical trial notes and then predicts the reason for the errors through **Natural Language Processing** techniques.
- Conducting research on the personality and biases of **Large Language Models** and how to induce certain characteristics out of ChatGPT for the analysis of the user experience of LLMs.

INDEPENDENT RESEARCH PROJECTS

Novel Deep Learning Model to Segment Mitochondria from Electron Microscopy Images | *PyTorch, Keras, Tensorflow*

- Presented at 2023 BMES Annual Conference under the bioinformatics and computational biology category.
- Developed a deep learning model that uses vision transformer as the encoder and skip connections and convolutional/deconvolutional layers in the decoders.
- Implemented a post-processing pipeline of data to augment mitochondria segmentation such as marker-controlled watershed algorithms and the Sobel operator.

EDUCATION

The University of Texas at Austin – Austin, Texas August 2021 – May 2025

Bachelor of Science, Computational Biomedical Engineering (Minor: Computer Science)

TECHNICAL SKILLS

Activities & Organizations: Beta Upsilon Chi fraternity (Philanthropy Chair), Texas Health AI (Founder & President), Student Engineers Educating Kids (Program Officer), Texas Engineering World Health, University Securities Investment Team
Experienced in: Python, C++, Java, MATLAB, AWS, R, Tensorflow, Keras, PyTorch MS Applications, Autodesk Fusion
Languages & Work Eligibility: Fluent in English and Korean**;** Eligible to work in the U.S. with no restrictions