

EDUCATION

Institute of Communications Engineering

College of Electrical and Computer Engineering,
National Yang Ming Chiao Tung University



Sep 2022 - Present



Hsinchu, Taiwan

Department of Mechanical Engineering

College of Engineering,
National Cheng Kung University | GPA 3.40



Sep 2018 - Jun 2022



Tainan, Taiwan

PROGRAMMING SKILL

Python

C++

C

COURSES

- Machine Learning
- Deep Learning
- Data Science
- Cloud Computing and Big Data Analytics
- Algorithm

PROJECTS

PANDA: Patched Averaging Noise Diffusion Algorithm

 Dec 2022 - Jan 2023 | CCBD Final Project

- Patch-based approach to improve Diffusion Model for image generation.
- Training two models independently on patches using Anime Face Dataset.
- Promising results with visually appealing generated images, lower VRAM usage, and potential for further improvement.

Model Compression and Few shot Learning for Pokemon Classification

 May 2023 - Jun 2023 | DS Final Project

- We present a combination of few-shot learning and model compression algorithm.
- The proposed method involves training a teacher model using supervised contrastive learning and distilling its knowledge to a smaller student model.
- Experimental results show promising clustering and compression effects, with scope for further improvements through dataset quality enhancement and the increase of model parameters.

School GPT

 Jun 2023 - Present | Lab project

- Answer any question about school.
- Using retrieval augmentation to fix hallucination in LLM.
- Using sentence-BERT as retriever.

Fruit brix prediction

 Sep 2022 - Present | Lab Project

- Using a deep learning model to predict sugar content after hyperspectral scanning of fruits.
- Using CNN model to train from scratch.
- Using novel data augmentation.

Self-Supervised Learning

 Oct 2022 - Nov 2022

- Implement self-supervised representation learning method (SimCLR).
- Learn the image embedding of unlabeled set from images (MRI) without labels.
- Evaluate embedding of unlabeled set with KNN.

Diffusion Generative Model

 Nov 2022 - Dec 2022

- Implementing diffusion generative models (DDPM).
- Train 60000 handwritten digits in size 28x28.

Crawler & Popularity Predictor

 Feb 2023 - Mar 2023

- Crawl data from PTT beauty
- Organize the crawled data and train a CNN model

Crowd Estimation

 Apr 2023 - May 2023


- Train VGG model to predict crowd density.
- The problem of crowd estimation is a difficult problem in which you have an image and have to count all the people on that image.
- We use MAE as the evaluation metric, try to beat baseline.

Headline Generation

 May 2023 - Jun 2023

- We aim to generate news headlines from news bodies.
- Try to improve the headline quality to increase the performance.
- Finetune T5 pretrain model from Hugging Face.

Graph Anomaly Detection

 May 2023 - Jun 2023

- Implement GCN model to find out the anomaly nodes.
- Solve the problem based on the given graph with the specific node indexes.