

TANG Tianhao

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EDUCATION

Hong Kong University of Science and Technology

Kowloon, Hong Kong

Bachelor of Sciences in Computer Science and Mathematics

Sept. 2018 – Present

- Current CGA: 3.997 / 4.3
- Dean's List of School of Engineering

RESEARCH EXPERIENCE

Final Year Project

Sept. 2021 – Present

Supervised by Prof. CHEN Qifeng, CSE, HKUST

Optimize Algorithms for Integer Programming Problems with Graph Neural Networks

- Currently working on developing an efficient (polynomial time) deep-learning-based greedy heuristic framework to solve integer linear programming.

Individual Study

Sept. 2021 – Present

Supervised by Prof. CHAN Shueng-Han Gary, CSE, HKUST

Image to Markup for Handwritten

- Currently working on constructing a model that can identify and decompose handwritten images to sequences in better formats and accuracy.

Undergraduate Research Opportunity Program

May 2019 – July 2019

Supervised by Prof. CHAN Shueng-Han Gary, CSE, HKUST

Dyslexia Patient Handwriting Recognition

June 2020 – Aug. 2021

- Constructed models on handwriting recognition and symptom labeling.
- Proposed and developed ideas on distinguishing dyslexia and normal through handwriting using the methods of chirality prediction and radical decomposition. Constructed models including transformer, encoder-decoder to achieve the idea and fine-tuned the hyper-parameters and ameliorated the structures for better performance.

Spam user Detection

Sept. 2020 – Dec. 2020

- Trained and fine-tuned a Graph Neural Network (GNN) to deal with data of users and comments in a large-scale graph form. Proposed different sampling methods and training strategies to deal with large scale.
- Trained SVM, Random Forest, and other models for performance comparison and evaluation with GNN.

Indoor Localization Program

July 2019 – Dec. 2019

- Maintained the localization system and test different algorithms on localization tasks.

Course Project of COMP4471: AI in Computer Vision

Sept. 2020 – Dec. 2020

Supervised by Prof. CHEN Qifeng, CSE, HKUST

- Built a deep learning model that can identify digit-alphabet-mixed CAPTCHAs of variable lengths and sizes in a fast and accurate manner.

WORKING EXPERIENCE

Part-time Research Assistant

Sept. 2021 – Present

HKUST CSE Department, in the group supervised by Prof. CHEN Lei

- Currently working on building Bayesian-based models like Tree-Structured Parzen Estimator (TPE) for blackbox hyper-parameter optimization problems.

Student Helper

Jan. 2021 – Feb. 2021

HKUST CSE Department, in the group supervised by Prof. CHEN Qifeng

Facial Recognition System for Campus

- Collected data used for training facial recognition models.
- Experimented and evaluated models to find the best model for classification tasks.

AWARDS

University's Scholarship Scheme for Continuing Undergraduate Students

1st tier, in 2018 and 2019 academic years