# Rain Leung

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# Summary

Passionate and interest-driven student who focuses on AI/ML related fields, especially on Deep Learning (DL), Natural Language Processing (NLP), and Computer Vision (CV). Habitual contestant of competitive programming, with 6+ years of programming experience since high school.

### Education

### The University of Hong Kong

Bachelor of Engineering in Computer Science

Sep 2021 - Jun 2024

cGPA 3.34 / 4.3

# PolyU Hong Kong Community College

Associate in Engineering, with Distinction

Sep 2019 - Jun 2021

Jun 2023 - Aug 2023

cGPA 3.77 / 4.0

#### Relevant Coursework

- Artificial Intelligence
- Machine Learning
- Natural Language Processing
- Computer Vision
- Data Science and Engineering
- Data Structures

- Algorithm Design
- Software Engineering
- Computer Architecture

# Work Experience

# MTR Corporation Limited

Summer Intern

• Created and maintained a new data pipeline in Python via APIs for room booking reports.

- Developed a web crawler for Glassdoor and conducted sentiment analysis on former employee reviews.
- Migrated and automated Octopus application process with SharePoint List and Power Automate.
- Assisted with UAT, ran test cases, and issued tickets using Redmine.
- Built Power BI dashboard for printer usage and ESG statistics.

# Open-source Projects

### Word-Sea | Python, PyQt5, BeautifulSoup

Dec 2023

- Developed a vocabulary look-up and jot-down application for English learning.
- Designed data structures and visualized with simple PvQt GUI.
- Created scripts to crawl, fetch, and parse data from Cambridge Dictionary.

### Simple-ML | Python, ML, NumPy

May 2023

- Implemented Machine Learning algorithms in a simple and minimal way.
- Developed a few classic supervised and unsupervised learning models.

# pystander.github.io | HTML, CSS, JavaScript, Jekyll, GitHub Actions

May 2023

- Developed my first personal website as a portfolio.
- Partially based on online boilerplate and hosted statically with Jekyll.

# ML-Read-and-Code | Python, ML, PyTorch

May 2023

- Read research papers and implemented Machine Learning models for self-learning.
- Covered fields such as Computer Vision and Natural Language Processing.

### Berkeley-AI-Pacman | Python, AI, ML

Dec 2022

- Completed a series of AI projects designed by UC Berkeley.
- Learnt search algorithms, probabilistic inference, and reinforcement learning.

# Closed-source Projects

# LLM-Evaluator | Python, NLP, PyTorch, Hugging Face, Prompt Engineering

Mar 2024

- Evaluated public LLMs (e.g., CodeLlama) on coding (HumanEval) and Math reasoning (GSM8K).
- Tested with prompting techniques such as chain-of-thought (COT) and program-of-thought (POT).

# Transformer-Encoder-LM | Python, NLP, PyTorch

Feb 2024

- Built a transformer-encoder-only language model for generating word embeddings.
- Trained on text8 (100MB of cleansed text from Wikipedia).

#### NGram-Sentiment | Python, NLP, Scikit-learn

Feb 2024

- Developed a N-gram language model with add-k smoothing and linear interpolation.
- Used N-gram features for training logistic regression model.
- Trained with unigram and bigram on Rotten Tomatoes (movie review datasets).

# MNIST Clustering | Python, ML, NumPy

Sep 2023

• Implemented K-means and K-means++ to cluster hand-written digits from MNIST database.

#### Technical Skills

Languages: Python, Java, C, C++, C#, Kotlin, HTML/CSS, JavaScript, SQL, R, Octave

Data Science & AI/ML: NumPy, Pandas, PyTorch, Scikit-learn, Keras, MLflow, BeautifulSoup, Selenium,

Matplotlib, AWS, Azure, SQLite, MongoDB

Miscellaneous: Unity, Android Studio, Arduino, Jekyll, QT, Figma

# Leadership / Extracurricular

# "Meet and Chat" for Study Success

Jul 2022

Student Ambassador

HKU Academic Advising Office

- Guided new admitted DAS students on academic planning and course selections.
- Shared university life experience as a senior student.

### Awards / Achievements

Dean's List Aug 2021

PolyU Hong Kong Community College

Director's List Oct 2020

PolyU Hong Kong Community College

Outstanding Student Award Oct 2020

PolyU Hong Kong Community College