

# Wong Wing Yan, Tracy

AI Engineer skilled in deep learning and data engineering.

🏠 Hong Kong

☎ +852 5118 4098

✉ tracywong117@gmail.com

🐙 github.com/tracywong117

🌐 linkedin.com/in/tracywong117

## 🧰 Experience

### AI Programmer

Jul 2023 – Present

D24H, Hong Kong

- Developed advanced sequence embedding models using deep learning (**Transformers**, triplet/ladder loss, binarization technique), optimized with C++ modules wrapped with Pybind11 and distributed training (DDP).
- Built a high-performance semantic search platform for over **30 million** NCBI SRA metadata records using PostgreSQL, pgVector, and custom embeddings; improved data quality and search with **LLM**-driven data cleaning and text-to-SQL workflows.
- Implemented distributed model inference pipelines using Hadoop, Spark, and HDFS, generating and processing over **2TB** of vector data; enabled rapid retrieval with FAISS and advanced data structures (e.g., Binary Relation Wavelet Tree, SDSL).
- Used RocksDB and PostgreSQL for scalable, high-performance data management and storage of large biological datasets.
- Modified and extended C++ library functions to fit project needs, configuring and building the codebase independently.
- Designed and deployed interactive data visualization dashboards using Vue.js, TailwindCSS, Chart.js, and Plotly.js.

### AI Engineer (Intern)

Jun 2022 – May 2023

InnoBlock Technology Limited, Hong Kong

- Fine-tuned a custom object detection models using YOLO.
- Implemented a self-designed real-time person tracking algorithm to monitor individuals across camera streams.
- Integrated facial recognition, object detection and person tracking into a government agency's data security monitoring platform.

## 🎓 Education

### BEng Artificial Intelligence: Systems & Technologies

Sep 2019 – May 2023

The Chinese University of Hong Kong

- Honors:** Faculty of Engineering Admission Scholarship (2019), Shaw College GE Scholarship (2022/23)
- Relevant Courses:** Machine Learning, Deep Learning, NLP, Computer Vision, Database System, Computer System, Computer Network
- Relevant Projects:**
  - Final Year Project:** Spam Movie Reviews Detection through Supervised Learning (NLP)
  - Developed image classifiers for CIFAR-10 and medical diagnostic images.

## ⚙️ Skills

### Programming Languages

Python

C/C++

JavaScript

SQL

### AI & Data Science

#### Libraries

PyTorch

Scikit-learn

Huggingface

SpaCy

OpenCV

YOLO

Pandas

Matplotlib

### Data Engineering & Distributed Systems

Spark

Hadoop

HDFS

PostgreSQL

FAISS

RocksDB

### Frontend & Visualization

Vue.js

TailwindCSS

Chart.js

Plotly.js

D3.js

### Cloud Platforms

AWS EC2

AWS S3

Azure

GCP

OpenAI

Vertex AI

GCP

GCP

BigQuery

OAuth

### Tools & DevOps

Docker

Git

Nginx

CMake

GitHub

GitHub

Actions

Copilot

## 🗣️ Languages

Cantonese

Native

English

Fluent

Mandarin

Fluent