# Tay Xue Hao

## Data Scientist

Driven by a **genuine passion in Artificial Intelligence**, I bring a solid academic foundation with a CGPA of 4.00. As an aspiring Data Scientist, I am eager to **learn and contribute** my expertise in Machine Learning and Artificial Intelligence to your organization. With focus of creating value through cutting-edge technology, I specialize in the dynamic realm of Computer Vision, Data Science and Deep Learning.

## Personal Details

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**GitHub**
https://github.com/XHTay

**Fiverr**
https://www.fiverr.com/dravent

## Notable Projects

- Personal Protection Equipment Detection (Jabil)
- AOI Component Defect Detection (Jabil)
- AXI Void/Bubble Detection (Jabil)
- Buzzer Oritentation Detection (Jabil)
- Facial Emotion Recognition using Convolutional Neural Network (Uni)
- Automated Cryptocurrency Trading using Deep Reinforcement Learning (FYP)
- Machine Failure Prediction (Uni)
- End to end Customer Churn Analysis (Personal)
- LLM Fine-Tuning on Mental Health Dataset (Freelance)
- MBTI Classification with Semi-supervised Learning (Freelance)

## Qualifications

**2021 - 2023 Bachelor of Computer Science in Data Science**
**-** Tunku Abdul Rahman University College, Kuala Lumpur, Malaysia

Graduated in August 2023 with a Bachelor's Degree in Computer Science, Majoring in Data Science with a **CGPA of 4.00**. Relevant Courses include Data Science, Statistics, Artificial Intelligence, Machine Learning, Image Processing and Natural Language Processing.

**2019 - 2021 Diploma in Computer Science**
**-** Tunku Abdul Rahman University College, Kuala Lumpur, Malaysia

Awarded a Diploma in Computer Science in May 2021. Relevant courses included Object-Oriented Programming, Database Development and Applications, Discrete Mathematics, and Statistics. Achieved **CGPA is 3.93**.

## Awards

**September 2022**

### Regional Insurtech Data Hackathon

Represented the school as the key player and leader in the Hackathon, which included teams from the South East Asian Region on September 9-11, 2022. Developed a recommendation engine using both text-based data as well as images from social media. Major achievement was successfully developing an image captioning algorithm that can generate texts from images.

**August 2022**

### TARUC x SENHENG Talent Development Program

Awarded with The Best Team Award and RM500 worth of S-Coins on 22 August 2022. Collaborated and conquered a plethora of challenges which tested problem solving, teamwork, and communication skills, such as public speaking, roleplaying as entrepreneurs to generate revenue, and solving conundrums.

# Core Skills

**Experienced :**

- Python / Java / C++
- Machine Learning / Deep Learning
- Data Analytics / Data Science
- Scikit Learn
- Pytorch / Tensorflow
- Pandas / Numpy
- Matplotlib / Tableau
- SQL / AWS S3
- Reinforcement Learning
- Github/Git

**Learning :**

- Deployment / CICD pipelines
- Docker / Flask / RestfulAPI
- AWS ECR / EC2 / CodePipeline / Sagemaker
- Communication / Creativity
- Generative AI - Stable Diffusion

# Interests

- Reading
- Gym Workout
- Swimming
- Artificial Intelligence

# Language

| English | Excellent |
| --- | --- |
| Chnese | Excellent |
| Malay | Good |

Updated in April'24

# Work Experience

**January 2023 - Present**

Intel Corporation

### Graduate Trainee Focusing on AI Engineering

1. Develop LLM RAG for internal data
2. AI Compiler, model optimization.

**September 2023 - December 2023**

### Data Science Freelancer on Fiverr

Completed 3 different Natural language Processing gigs:

1. **Fine-Tuning Large Language Models** (LLM) with mental health q&a dataset.
2. **Format data** from raw text to JSON to prepare for fine-tuning.
3. **Semi-supervised learning** with Twitter comment dataset to predict users' MBTI personality with 20:80 labeled and unlabled data.

**February 2023 - July 2023**

Jabil Global Business Center in Bayan Lepas, Penang

### Data Science Intern Specializing in Computer Vision

Played a pivotal role in the development of **5 projects :**

1. **Personal Protection Equipment Detection**
   - Developed Yolo based warning system for onsite welding workers' safety gear detection.
2. **X-ray Void Detection**
   - Led project to develop custom segmentation algorithm with Yolo, OpenCV and regression analysis for PCB void detection.
3. **AOI Machine Component Defect Detection**
   - Trained and evaluated model backbones for 20k+ componenet defect classification, devised component image clustering for performance boost.
4. **USB and PCB Defect Detection**
   - Developed Yolo based defect detection for USB and PCB quality checks.
5. **Buzzer Orientation Detection**
   - Developed Yolo based model for buzzer orientation verification.

# References

**Rita Chen**
Principal Data Scientist, Jabil

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**Dr. Sandy Lim Siew Mooi**
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