Zhiyuan ZHANG

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EDUCATION

The Hong Kong Polytechnic University (PolyU) **08/2021-Present**

BSc (Hons) Scheme in Computing

- **Awards:** Dean's Honours List in the 2022/23 Academic Year; Best GBA Solution in Cathay Hackathon 2023
- **GPA:** 3.52 / 4.3

Chalmers University of Technology, Sweden **01/2024-06/2024**

Exchange

- **Took 5 graduate-level courses** including Design of AI Systems, Discrete Optimization, Introduction to Artificial Intelligence, Image Analysis and Applied Machine Learning, and achieved A or above in most of them

University of Cambridge, the United Kingdom **07/2023**

Summer School

- Studied mathematics for engineering, and explored British culture and its rich history

RESEARCH & ACADEMIC PROJECTS

Knowledge Inference using LLM **03/2024-Present**

Core Member, Supervisor: Dr. WU Ruihan, University of California, San Diego

- Trained and fine-tuned models that will be attacked (Few Shot Learning)
- Generated output using Gemma, visualized results with heatmap, and evaluated results
- A paper is pending publication in Nov. 2024

GiFT: Gabor-Filtered Position-Focused Transformer for Neural Operator Learning **05/2024-Present**

First Author, Supervisor: Prof. LIN Wanyu, HK PolyU

- Reviewed and summarized over 30 papers from top conferences, and presented to group members
- Carried out training, continuous fine-tuning, measurement, and improvement of processes
- A paper will be published around Jan. 2025

Large Language Models for Operation Research Problems **06/2024-09/2024**

Research Intern, Supervisor: Prof. GHADDAR Bissan, Western University, Canada

- Studied the intersection of LLM and Operations Research Problems
- Wrote a survey about LLM for Operation Research Problems
- Used BERT and other transformer architecture to evaluate the models
- A paper will be published around Jan. 2025

Recognition of Fresh and Rotten Fruits **01/2023**

Research Assistant, Supervisor: Prof. CHOW Alan, Nvidia Deep Learning Institute

- Developed a deep learning model that can interpret color images
- Utilized transformer architecture to better the performance
- Applied data augmentation to enhance a dataset and improved model generalization

Solar Panel System **01/2022-08/2022**

Core Member of Computing Team, Supervisor: Prof. NGAI Grace, Habitat Green in East Africa

- Critically perused pertinent papers and handouts, and conducted lab experiments and field research
- Set up 21 solar panel systems for local villagers in 7 days with 3 teammates
- Gained insights into various aspects of East Africa, like agriculture and education

Artificial Intelligence Research Camp **01/2021-02/2021**

Core Member, Supervisor: Mr. ZHANG Xiao, University of Science and Technology of China

- Completed paperwork, recognizing discrepancies, and promptly proposing solutions
- Used Arduino to program for the small lifting device
- Displayed exceptional coordination, planning, and problem-solving skills

EXTRACURRICULAR ACTIVITIES

Hong Kong, China Rowing Association **09/2022-Present**

Core Member

- Actively attended land and water training sessions to improve my rowing skills, and prepared for competitions

Google Developer Student Club, PolyU **11/2021-Present**

Core Member

- Analyzed problems, offered practical solutions, attended workshops, and learned Explainable AI

26th HEARTFIRE Team, The Education Service Platform **12/2022**

Volunteer Teacher

- Taught Latin dance to primary students in Taiwan, and enlightened students in and after class
- Hosted and helped design the Closing Ceremony

E-formula Team of PolyU **10/2021-05/2022**

Member of Computing Team and Press Officer

· Gathered information, offered advice on activity promotion and weekly training, and reached out to sponsors

PolyU Toastmasters Club **09/2021-07/2022**

Vice President of Education

· Completed publicity copywriting and recruited new members

SKILLS

Programming: Python, Java, R, SQL, JavaScript, C, C++, C#

Other Technical Skills: Office 365, Adobe Premiere Pro, Adobe Photoshop