Hoi Yan Ian Heung | 香愷仁

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Education

Davidson College	*Davidson, NC, USA*
Bachelor of Science, Physics Major, Computer Science Minor	08/2020 – 05/2024

- GPA: 3.9/4.0

Temple University Japan Campus	*Tokyo, Japan*
Spring 2023 Study Abroad	01/2023 - 04/2023

- Abroad Coursework GPA: 3.9/4.0

Programing Languages, Software, Skills

Main Programming Skills:	Bash Scripting, GitHub, Linux, Python (scikit-learn, PyTorch, TensorFlow)
Programming Languages:	C, C++, Java, Kotlin, SQL, Verilog
Software:	Android Studio, CERN ROOT, MATLAB, Microsoft Excel, Xilinx Vivado
Skills:	Data Management & Processing, Machine Learning, Nuclear Physics, Signal Processing

Experience

Outlier AI	*Remote*
AI Training Physics Expert	01/2024 - Present

- Train and optimize natural language processing models, enhancing prompt generation and output quality
- Collaborate with international AI and physics experts to fine tune AI models for physics related tasks

The Hurt Hub@Davidson	*Davidson, NC, USA*
Data Consultant	08/2023 - Present

- Provide data driven solutions to academic faculty, student researchers, and local businesses
- Host data skills workshops on Excel, Python, data science, and machine learning for students and faculty

Facility for Rare Isotope Beams (FRIB)	*Davidson, NC, USA*
Undergraduate Machine Learning Researcher	01/2022 - Present

- Develop and apply deep learning models to analyze nuclear reaction particle track data
- Boosted model efficiency of 2D CNN model for particle classification by improving F1 score from 0.60 to 0.85
- Lead the development of 3D sparse convolution models for point classification and track segmentation
- Develop comprehensive pipeline for processing multidimensional data, encompassing data visualization, sanitization, and transformation, ensuring high-quality inputs and efficient computational performance

Okinawa Institute of Science and Technology Graduate University (OIST)	*Okinawa, Japan*
Research Intern	05/2023 - 08/2023

- Developed and implemented PID controller for laser stabilization and digital filters in MATLAB to reduce noise
- Led the digital transformation of experimental setup by integrating applications onto FPGA board

Davidson Research Initiative	*Davidson, NC, USA*
Undergraduate Physics Researcher	05/2022 - 08/2022

- Conducted radioisotope identification and radioactivity analysis of soil samples using gamma-ray spectroscopy
- Processed raw data into histograms using CERN-ROOT library for radioactivity data visualization and analysis
- Presented work at 2022 Physics Congress, and 2022 Fall Meeting of the Division of Nuclear Physics

Extracurricular Activities

Davidson Investment and Finance Association	*Davidson, NC, USA*
Member	08/2023 - Present

- Collaborate with sector members to develop and discuss investment strategies and pitch proposals
- Engage in regular analysis of investments, contributing to decision making and management of the club portfolio

Davidson College Hong Kong Society	*Davidson, NC, USA*
Founder and President	09/2022 - Present

- Foster a supportive network for Hong Kong students, assisting in their adaptation to American collegiate environment
- Work closely with the board members to organize cultural events to share Hong Kong culture to college community

Davidson College Badminton Club	*Davidson, NC, USA*
Founder and President	10/2021 - Present

- Coach and lead recreational and competitive badminton training sessions, promoting inclusivity and teamwork
- Lead the club in intercollegiate badminton tournaments, showcasing competitive spirit and leadership

Languages

Languages:	Native: Cantonese, English, Mandarin	Fluency: Japanese (JLPT N2 Level)	Beginner: Korean