HUANG Tin Yeh (Heaven)

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EDUCATION

The Hong Kong Polytechnic University — Hong Hum, Kowloon, Hong Kong SAR
B.Eng. (Hons) in Product Engineering with a Second Major IE — September 2025 - May 2028 (Expected)
B.Eng. (Hons) Scheme in Product and Industrial Engineering — September 2024 - August 2025

Tsinghua University `(Exchange)` — Beijing, China
B.Eng. in Creative Design and Intelligent Engineering — September 2025 - January 2026 (Scheduled)

Tsinghua TEEP & X-Institute — Beijing, China
Jointed Training Research Scholar (Track of Social Innovation) — September 2024 - May 2028 (Expected)
Supervisor: Prof. Ming Tang

Shenzhen Medical Academy of Research and Translation — Shenzhen, Guangdong, China
Visiting Research Student - Mingxu Hu's Lab — June 2025 - July 2025
Supervisor: Dr. Mingxu Hu (PI), Dr. Qi Zhang

Exchange
1) Semester Exchange (2025/2026 Semester 1), Tsinghua University — September 2025 - January 2026
2) Social Innovation Training, Shenzhen X-Institute & ByteDance Ltd. & Accenture Co. Ltd. — January 2025
3) AI Winter School 2025, Center for the Fundamental Physics of the Universe & Brown University — January 2025
4) 2024 Ministry of Education of PPC Teacher and Student Exchange Plan - Human-machine Shared Control Intelligent Car Project, Northeastern University & The Hong Kong Polytechnic University — December 2024

RESEARCH PUBLICATIONS

Wang, X.[*], **Huang, T. Y.**, Jiang, Z., Wang, Y. "*Bio-Cryptography: Dual Deep Learning Framework for Protein Watermarking via Geometric-Chemical Fingerprinting*" ICML 2025 Workshop on NewML 2025

Wang, Y., Wang, J., **Huang, T. Y.**, Yang, J., Xu, Z. "*STGCN-LSTM for Olympic Medal Prediction: Dynamic Power Modeling and Causal Policy Optimization*" ICML 2025 Workshop on NewML 2025

Wang, Y.[*], Cai, M., **Huang, T. Y.** "*AI for Disease Prediction: Performance Insights and Key Limitations*" *Journal of Clinical Neuroscience* 138, 111360
`https://doi.org/10.1016/j.jocn.2025.111360` 2025

Wang, X.[*], Wang, Y.[+], **Huang, T. Y.**[+] "*Crypto-ncRNA: Encryption Algorithm Based on Non-Coding RNA (ncRNA)*" ICLR 2025 Workshop on AI for Nucleic Acids
`https://openreview.net/forum?id=j6ODUDw4vN` 2025

Wang, Y.[*], Wang, J., **Huang, T. Y.**, Yang, J., Yang, G., Xu, Z. "*STGCN-LSTM for Olympic Medal Prediction: Dynamic Power Modelling and Causal Policy Optimization*" arXiv preprint arXiv:2501.17711 2025

[*] *First Author* [+] *Co-First Author*

ACADEMIC PARTICIPACTION

Reviewer for *ICML 2025 Workshop · 2nd AI for MATH* 2025
Reviewer for *F1000 Research* 2025

PROJECTS

Design Optimization of Hydraulic Press Plate using Finite Element Analysis — January 2016 - April 2016
Major Project as a part of curriculum

· An Industrial Defined Project in collaboration with Incredible Machines, Rajkot
· Designed and performed an FEA analysis of the plates of Hydraulic machine with the capacity of 250-ton
· Optimization in terms of design and material reduction, leading to cost effectiveness, considering minimum deformation of plates during operation

Mathematical Modeling and Analysis of a Hydro-pneumatic Suspension Column of a Car July 2015 - October 2015
Minor Project as a part of curriculum
· Modeled a 2-DOF system considering sprung and unsprung mass of the vehicle
· Performed sensitivity analysis to minimize the displacement of sprung and unsprung mass caused by vehicle hitting a bump using Transfer Function approach
· The settling time and displacement of the system were decreased using Hydro-pneumatic suspension system

Design and Thermal analysis of Disk Brake Rotor using ANSYS March 2016
GT Motorsports,a Formula Student Team of GTU
· Applied Energy Equation to calculate theoretical data for the input of simulation
· Devised boundary conditions for modeling the system by calculating including Heat power and Heat flux
· A Static thermal analysis in ANSYS Workbench using real time boundary conditions to obtain temperature distribution of Brake Rotor

Design, Development and Analysis of Exhaust System and Muffler assembly Sept 2015 - Jan 2016
GT Motorsports,a Formula Student Team of GTU
· Design and Development of complete muffler assembly for the reduction of noise under 110 dBC as per the rulebook
· Modeling and Acoustics analysis of muffler assembly in ANSYS to determine the Transmission Loss
· A CFD analysis of Exhaust Manifold using ANSYS Fluent to optimize the exhaust gas flow

INTERNSHIPS / TRAININGS

Student Research Intern, RC-DSAI, The Hong Kong Polytechnic University Oct 2024 – Present
Student Assistant, Division of Science, Engineering & Health Studies, CPCE · PolyU Mar 2024 – Apr 2025
AI & Data Trainee, Royal Plaza Hotel (Accounting & IT Dept.) Dec 2023 – Apr 2024
Visiting Student – Cryo-EM Research, SMART & Shenzhen Bay Laboratory Jun 2025 – Jul 2025
AI Winter School 2025, Brown University Jan 2025

POSITION OF RESPONSIBILITY

CAE and Powertrain Lead, Formula SAE August 2015 - Present
GT Motorsports,a Formula Student Team of GTU
· Devised the design objectives and validation of designs through simulations and testings
· Concentrated on real time simulation of Exhaust System and the noise reduction of Exhaust system
· Part of core Design group in the team helping with various design decisions
· Performed numerous simulations of various components of the car in the area of FEA and CFD segments with documentations

Head coordinator of Mechanical section at Robotics club July 2015 - May 2016
Sanjaybhai Rajguru College of Engineering
· A college level Robotics club established by students with the aim of learning and professional skill development among students and peers
· Lead in Mechanical work of Robotics club, working mostly with CAD and Hardware systems
· Team leader and active member working to develop various robots of different concepts and configurations

EXTRA-CURRICULAR

- Master of Ceremonies – 75th PRC National Day Luncheon (HKFTU) Oct 2024

- 9-day Cycling Tour round Taiwan (1 120 km) Aug 2023
- Microsoft Certified: Azure AI Fundamentals Dec 2021

ACHIEVEMENTS

HKSAR Government Scholarship Fund – Reaching Out Award (ROA) 2025
PolyU Entry Scholarship (The Hong Kong Polytechnic University) 2024

SKILLS AND INTERESTS

Computer-based Python(Pandas, PyTorch, TensorFlow, ...), C++, SQL, SAS, R, CAD&CAE (SolidWorks) Adobe(Photoshop, Illustrator, InDesign), IMOD, PyMol, ChimeraX, LaTeX, MS Office

Manufacturing Additive Manufacturing(FDM, SLA, SLS, ...), Reverse Engineering, Quality Engineering, Robotics (Arduino/Raspberry Pi), Benchwork, Engineering Drawing

Soft skills Product & Industrial Design/Development, Design Thinking, Design for Many(Optimizing, Manufacturing, Sustainability, ...), Project Management, Human-centered Design

Languages Cantonese/Mandarin (Native), English (Fluent)

DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.