HUANG Tin Yeh (Heaven)

Department of Industrial and Systems Engineering, Faculty of Engineering,
The Hong Kong Polytechnic University, Hong Kong SAR, China, 999077
+852 9449 8934 ◇ +86 198 9655 5044 ◇ https://tyhuang.hk
tin-yeh.huang@connect.polyu.hk ◇ hty25@mails.tsinghua.edu.cn ◇ huangtianye@mails.x-institute.edu.cn

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 - May 2028 (Expected)

Tsinghua University (Spring Semester 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 — 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

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

INTERNSHIP/TRAININGS

Automotive Industry Simulation Internship,
Expertshub,Sinhgad Institute of Engineering, Pune June 2015

Machining and Quality Control of Forged Connecting Rods,
Amul Group of Industries, Rajkot February 2015

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-CIRRUCULAR

- STTP on **Life Long Research** under TEQIP-II, SVNIT, Surat February 2016
- Participated in **Formula Student India**, An International FSAE competition, Secured 9th rank overall & 4th in Endurance January 2016
- Seminar on **Introduction to Robotics and Arduino Programming**, SRCOE,Rajkot July 2015
- **Junkyard**, BRIZINGER'15, a National Level Techfest, GEC, Rajkot March-2015

- Seminar on **Rapid Prototyping**, COGNIZANCE 2K14, a National Level Technical Festival, CSPIT, Charotar September-2014
- **Rise of Machine**, PRAKARSH 9.0, a National Level Technical Symposium, SVIT, Vasad March-2014

ACHIEVEMENTS

Michigan Institute for Computational Discovery Fellow *Spring 2015*
NSF GROW Fellowship Awardee *Spring 2015*
Community Coordinated Modeling Center Research Winner *Spring 2015*
NSF Graduate Research Fellowship Program Fellow *Spring 2014*
Rackham Merit Fellow *Fall 2013*
Template Developer for LaTeX *September 2013 - Present*
Backpacker and Hiking Enthusiast - have climbed 7 > 14,000 ft peaks

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.