

# HUANG Tin Yeh (Heaven)

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## EDUCATION

### The Hong Kong Polytechnic University

B.Eng. (Hons) in Product Engineering with a Second Major IE

B.Eng. (Hons) Scheme in Product and Industrial Engineering

Hong Hum, Kowloon, Hong Kong SAR

September 2025 - May 2028 (Expected)

September 2024 - May 2028 (Expected)

### Tsinghua University (Spring Semester Exchange)

B.Eng. in Creative Design and Intelligent Engineering

Beijing, China

September 2025 - January 2026 (Scheduled)

### Tsinghua TEEP & X-Institute

Jointed Training Research Scholar

Supervisor: Prof. Ming Tang

Beijing, China

September 2024 - May 2028 (Expected)

### Shenzhen Medical Academy of Research and Translation

Visiting Research Student - Mingxu Hu's Lab

Supervisor: Dr. Mingxu Hu (PI), Dr. Qi Zhang

Shenzhen, Guangdong, China

June 2025 - July 2025

## RESEARCH PUBLICATIONS

Wang, X.<sup>\*</sup>, **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.<sup>\*</sup>, 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.<sup>\*</sup>, Wang, Y.<sup>+</sup>, **Huang, T. Y.**<sup>+</sup> "Crypto-ncRNA: Encryption Algorithm Based on Non-Coding RNA (ncRNA)" ICLR 2025 Workshop on AI for Nucleic Acids  
<https://openreview.net/forum?id=j60DUDw4vN> 2025

Wang, Y.<sup>\*</sup>, 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

<sup>\*</sup> First Author    <sup>+</sup> Co-First Author

## ACADEMIC PARTICIPATION

Reviewer for *International Conference of Machine Learning 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

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**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

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**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-CIRRICULAR

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- 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

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

## SKILLS AND INTERESTS

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<b>Computer-based</b>	Python(Pandas, PyTorch, TensorFlow, ...), C++, SQL, SAS, R, CAD&CAE (SolidWorks) Adobe(Photoshop, Illustrator, InDesign), IMOD, PyMol, ChimeraX, LaTeX, MS Office
<b>Manufacturing</b>	Additive Manufacturing(FDM, SLA, SLS, ...), Reverse Engineering, Quality Engineering, Robotics (Arduino/Raspberry Pi), Benchwork, Engineering Drawing
<b>Soft skills</b>	Product & Industrial Design/Development, Design Thinking, Design for Many(Optimizing, Manufacturing, Sustainability, ...), Project Management, Human-centered Design
<b>Languages</b>	Cantonese/Mandarin (Native), English (Fluent)

## DECLARATION

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