# 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 - May 2028 (Expected)

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

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

**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

**Hong Kong Community College, PolyU** — Yau Ma Tei, Kowloon, Hong Kong SAR
Associate in Statistics and Data Science — September 2023 - August 2024

**Pui Kiu College** — Tai Wai, New Territories, Hong Kong SAR
Hong Kong Diploma of Secondary Education (HKDSE) — September 2018 - August 2023

## SKILLS AND INTERESTS

**Interests** — Product Development, Design, Automobile, CAD/CAE, Finite Element Analysis, Optimization, Fluid Mechanics, Robotics, Modeling and Simulation

**Design Software** — Basic AUTOCAD, CATIA V5, ANSYS (Static Structural, Transient Structural, Static Thermal, Transient Thermal, Harmonic Response, Model analysis, Acoustic, Fluent), OptimumLap, MATLAB

## 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

## RESEARCH PUBLICATION

**Akshay Vaishnav**, Path Lathiya, Mohit Sarvaiya"*Design Optimization of Hydraulic Press Plate using Finite Element Analysis*"Vol. 6 - Issue 5, International Journal of Engineering Research and Applications (IJERA), ISSN: 2248-9622 May 2016

## 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

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|---|---|
| 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 | |

## DECLARATION

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