

Ricky Tse

Mechanical Engineer

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Education

Columbia University

M.S. - Mechanical Engineering

New York, United State

Sept 2024 - Jan 2026

The Hong Kong University of Science and Technology

BSc - Integrative System and Design (Mechanical focus)

Hong Kong, China

Sep 2020 - Jun 2024

- Scholarships: Engineer Innovation Challenge Champion, ASMP award Bronze award, Chinachem Promovership Scholarships
- Courseworks: CAD, FEA, Static and Dynamic, Mechatronic, Product design, Programming, Mechanical system, Fluid Mechanics
- Work: Research assistant, Teaching assistant in multiple labs and courses
- MGPA: 3.63, top 10%

University College London

Affiliate Mechanical Engineering - Year-Long Exchange

London, United Kingdom

Sept 2022 - Jun 2023

- Courseworks: Materials, Mechatronic control system, Robotics, Hydrodynamics, Biomechanics
- Projects: Ship design, Propeller design, Biomechanical implant design

Main Experience

Apple Inc

iPhone Product design intern

Shen Zhen, China

Jul 2023 - Oct 2023

- Responsible for investigating assembly issues for mass production (iPhone), and on-site work in the Foxconn factory.
- Finish a side project, programmed an app for pre-production inspection for design risks for iPhone.
- Participate in fixture & housing design, aim improving overall production quality and yield.
- Responsible for mass production assembly adjustment of a part, FR rate drop from >7% to <2%.
- Inspect design & assembly issues using various inspection methods (CT, X-ray, force test, etc).

Pointfit Tech Ltd

Product design engineer

Hong Kong, China

Jun 2022 - July 2024

- Responsible for designing & prototyping a portable biomarker detection device, material selection & testing from ground up.
- Device prototyping, test, showcase to various stakeholders (ASICS, Nike, Adidas, HK Government, HK PolyU, etc).
- From product ID design, prototyping, finding manufacturer and communicating on mass production details.
- Winner for ASICS accelerator 3.0. 2025 CES participant. Currently collaborating with olympics athletes for market validation.

The Hong Kong University of Science and Technology - ISD

Research Assistant

Hong Kong, China

Jun 2021 - Jun 2022

- Responsible for the mechatronic design of a self-automated fishery platform for barnacle agriculturing.
- Research & test on material for mechanical property under harsh environment (sea condition).
- Engage in design, assembly, control system programming, and prototype testing of the automated platform.

Project Experience

F.I.R.S (Facade Installation Robotic System)

Team Member

Hong Kong, China

Sept 2023 - May 2024

- Responsible for the mechanical design and firmware of the robot and outer wall structure.
- Utilizing facade climbing robot to install solar panels on facade, reducing risks of working at height.
- Engineering Innovation Challenge (Singapore) champion. Hong Kong ASMP bronze award. HKSTP Incubation Program.
- <https://ssac-dev.hkust.edu.hk/facade-installation-robotic-system-firs/>

HKUST ENTERPRIZE Team (Robomaster)

Mechanical Engineer

Hong Kong, China

Sept 2020 - Jun 2021

- Responsible for chassis mechanical design of the robot.
- 3D & 2D part design and drawing release.
- Parts production using CNC, 3D printing, laser cutting, and water jet cutting.

Skills

CAD	UGNX, Fusion360, Solidworks, Creo, Rhino, Blender
FEA Simulation	ANSYS - Static, Modal analysis, Electro-thermal, Fluid
Prototyping	Plastic & metal 3D printing, Injection molding, Laser cutting, Water jet, CNC
Programming	C++/C (Embedded system), ROS, Python (Tensorflow, Pandas, NumPy, Pyqt), Machine Learning, Computer Vision
Electronic	Basic electronic, PCB design, Layout, Chip selection, Soldering