

Ricky Tse

Mechanical Engineer

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Education

Columbia University

New York, United State

M.S. - Mechanical Engineering (Robotics)

Sept 2024 - ongoing

- Research assistant in MBL labs. Robotics, ROS, Control, Datascience

The Hong Kong University of Science and Technology

Hong Kong, China

BSc - Integrative System and Design (Mechanical focus) MGPA: 3.63/4.0, top 10%.

Sept 2020 - Jun 2024

- Scholarships: Engineer Innovation Challenge Champion, ASMPT 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.

University College London

London, United Kingdom

Affiliate Mechanical Engineering - Year-Long Exchange

Sept 2022 - Jun 2023

- Materials, Robotics, Control theory, Biomechanics Ship design, Propeller design, Biomechanical implant design.

Main Experience

Apple Inc

Shen Zhen, China

iPhone Product design intern

Jul 2023 - Oct 2023

- Inspected 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.
- Initialized a 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

Hong Kong, China

Product design engineer

Jun 2022 - July 2024

- As core member, Designed & Prototyped a portable biomarker detection device, material selection & testing from ground up.
- Took charge of device prototyping, test, showcase to various stakeholders (ASICS, Nike, Adidas, HK Government, HK PolyU, etc).
- Facilitaed ID design, finding manufacturer and communicating on mass production details.
- Contributed to multiple award, 2025 CES participant. Currently working on mass production improvements.

The Hong Kong University of Science and Technology - ISD

Hong Kong, China

Research Assistant

Jun 2021 - Jun 2024

- Works on multiple projects related to sea robotics. Including fish robot, automated marine platform, undersea surveillance camera
- Designed mechatronic system of a self-automated fishery platform for barnacle agriculturing.

Project Experience

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

Hong Kong, China

Team Member

Sept 2023 - May 2024

- Design mechanical system 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.
- Contribute to Engineering Innovation Challenge (Singapore) champion. Hong Kong ASMPT bronze award. HKSTP Incubation Program.
- <https://ssac-dev.hkust.edu.hk/facade-installation-robotic-system-firs/>

Low Cost 6-DoF robot arm

Hong Kong, China

Open sourced: https://github.com/Duallife/Six_Dof_Arm

Sept 2020 - Jun 2021

- Designed the chassis of the robot.
- Modeled 3D & 2D part design and drawing release.
- Take charge of parts production using CNC, 3D printing, laser cutting, and water jet cutting.
- https://github.com/Duallife/Six_Dof_Arm

Skills

CAD	UGNX, Fusion360, Solidworks, Creo, Rhino, Blender
Data analysis	jmp, origin, sql, MATLAB, Labview
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 systems), ROS, Python (Tensorflow, Pandas, NumPy, Pyqt), Machine Learning, Computer Vision
Electronic	Basic electronic, PCB design, Layout, Chip selection, Soldering