Ricky Tse

Product Design Engineer/Robotics Engineer

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Education

Columbia University — *New York, United State*
M.S. - Mechanical Engineering (Robotics) — *Sept 2024 - May 2025*
- 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%. — *Sep 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

Insta360 — *Shen Zhen, China*
Product design engineer — *Jul 2025 - Now*
- PD representitive for one of the newest main product line. Lead communication with ODM.
- Design multiple accessories for various different product lines, from prototype to MP stage.

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 Inccubation 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
Programming	C++/C (Embedded systems), ROS, Python (Tensorflow, Pandas, NumPy, Pyqt), Machine Learning, Computer Vision
Electronic	Basic electronic, PCB design, Layout, Chip selection, Soldering