

Hon Man “Herman” Mak

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EDUCATION

PhD Fluid Mechanics

Nov 2021 – Nov 2024

École polytechnique and ONERA - The French Aerospace Lab

Paris, France

- Thesis: “Improvement of aeroelastic models for linear gust response prediction”

MSc Advanced Aeronautical Engineering

Oct 2020 – Oct 2021

Imperial College London

London, UK

- On course for Distinction
- Took a broad range of modules relating to aeronautical engineering, and in particular fluid mechanics.
- Thesis: “Semi-empirical optimisation of the shape of a surface reducing turbulent skin friction” ([report](#))

BA&Sc “How do fluids affect vehicles?”

Sep 2016 – May 2020

Quest University Canada

Squamish, BC, Canada

- GPA of 3.76/4.00; President’s List; Quest University Canada Scholarship
- Designed a self-directed curriculum focused on the above Question, taking courses primarily in mathematics and physics that are uniquely conducted with round-table discussions, emphasising creative problem solving, and interdisciplinary, inquiry-based small-group learning
- Thesis: “An Analysis of Symmetric and Cambered Aerofoils in Low Reynolds Number Flow Using Particle Image Velocimetry (PIV)” ([report](#))

IB & Ontario Secondary School Diploma

Aug 2005 – Jun 2016

Canadian International School of Hong Kong

Hong Kong

- Maple Leaf Award; Ontario Scholar; Manulife-Canadian International School of Hong Kong Scholarship

PROJECTS

Imperial Formula Racing - Aerodynamics | *Star-CCM+*, *SolidWorks*

Oct 2020 – Oct 2021

- Working with a small team to design the shape of the nose-cone and body-panels for the 2021 Imperial Formula Racing student car
- Delegating work amongst ourselves to meet the quick turnaround time for conceptual design
- Quickly gained an understanding of Star-CCM+ to analyse the flow field around the car

Bachelor’s Final Year Project | *MATLAB*, *PIVLab*, *SolidWorks*

Oct 2019 – May 2020

- Designed and conducted experimental fluid dynamics research on aerofoils at the University of Southampton’s low speed water flume as a visiting research student under the guidance of Dr Christina Vanderwel by auditing courses and teaching myself all the above-mentioned software.
- Developed laboratory skills such as data collection skills and manufacturing skills from working with multiple departments to select the optimal materials/process to build aerofoil models
- Delivered a thesis (above-mentioned) and recorded presentation regarding the project to an audience entirely unfamiliar with the subject ([video link](#))

Physics Momentum Model | *Python*

Jan 2018 – Feb 2018

- Self taught Python to iteratively improve numerical physics models based on data collected on a phone in multiple increasingly complex real-world situations throughout my undergraduate Physics 1 class
- Only student at Quest University to have found a solution to accurately model the physics from data collected in a rotating reference frame by pulling from knowledge garnered from other courses and applying in-situ/retroactive noise and error correction

WORK EXPERIENCE (PART-TIME & TEMPORARY JOBS)

Peer Tutor

Aug 2018 – Mar 2020

Quest University Canada

Squamish, BC, Canada

- Tutored peers in course-specific and drop-in sessions on rhetorical and quantitative reasoning skills, in addition to students struggling in mandatory quantitative reasoning/mathematics diagnostics
- Proposed, created, and ran academic workshops on technical skills such as Excel and LaTeX
- Improved upon and digitised the collection of student evaluations, reviewed collected evaluations, and performed marketing duties in small teams
- Spearheaded internationalisation efforts of peer tutors at the university

Education Technology Intern

Jun 2018 – Aug 2018

Independent Schools Foundation Academy

Hong Kong

- Managed the school's online learning platform during an unexpected staff vacancy
- Put the team weeks ahead of schedule by taking the initiative to learn HTML, JavaScript, and MySQL for front- and back-end access to quickly perform user requests, and automate a yearly process
- Created graphics and how-to guides in Mandarin and English for teachers on technology usage

Special Events Crew

Sep 2016 – May 2018

Quest University Canada

Squamish, BC, Canada

- Led teams of volunteers, worked independently, or worked with a small team to set up staging and AV equipment for events
- Aided in event organisation, and performed customer service duties

Day Camp Counsellor & Photographer

Jul 2017 – Aug 2017

Treasure House, Noah's Ark

Hong Kong

- Mentored children through educational activities, and streamlined the photo selection/editing process

COMMUNITY SERVICE

English Language Teaching Assistant

Nov 2018 – Mar 2020

Immigrant Services Society of BC

Squamish, BC, Canada

- Taught English to newly incoming immigrants and refugees, fostering relationships in the local immigrant community, cultivating effective communication skills in limiting circumstances

Mentor/Big Brother

Jan 2018 - Apr 2019

Big Brothers Big Sisters of Canada

Squamish, BC, Canada

- Built up confidence in high school students through social interaction and mentoring in maths and sciences, solidifying my ability to create an effective, enjoyable learning environment

Latin Ballroom Dance Teaching Assistant

Aug 2014 - Jun 2016

Kennes Yiu Dance Studio

Hong Kong

- Taught under-privileged children Latin ballroom dances

RELEVANT SKILLS

- Proficient in MATLAB, Python, and LaTeX
- Experienced in Git, Star-CCM+, Fusion 360, SolidWorks, Adobe Creative Suite, and machine learning (Keras and Tensorflow)
- Novice in R, C++, Fortran, HTML, JavaScript, and MySQL
- Ability to write and speak in English, Cantonese, and Mandarin

EXTRACURRICULAR ACTIVITIES

- MSc course representative
- Member of the aerodynamics team for Imperial Formula Racing
- Member of the Latin team for Imperial Dance Club
- Led the Quest University Social Dance Club, and taught dancing
- Peer reviewed for Quest University's academic journal - Momena