Herman Mak

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EDUCATION

MSc Advanced Aeronautical Engineering
Oct 2020 – Sep 2021

Imperial College London
London, UK

- On course for Distinction
- Taking modules on aerodynamics (including turbulence, flow control, aeroservoelasticity, and CFD), control theory, and AI, as well as a broad range of other topics related to aeronautical engineering

BA&Sc – "How do fluids affect vehicles?"
Sep 2016 – May 2020

Quest University Canada
Squamish, BC, Canada

- GPA of 3.76/4.00 ($\sim$ 95%); President's List: Spring 2018, Fall 2018, Spring 2019
- Awarded the 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
- Courses are conducted in successive 3.5 week blocks allowing for multiple time constrained, independent/group research projects per course that can involve opportunities to conduct fieldwork such as the physics momentum model project mentioned below

IB & Ontario Secondary School Diploma
Aug 2005 – Jun 2016

Canadian International School of Hong Kong
Hong Kong

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

PROJECTS

Imperial Formula Racing - Aerodynamics | *Star-CCM+, SolidWorks*
Oct 2020 – present

- 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
- Wrote a research report titled "An Analysis of Symmetric and Cambered Aerofoils in Low Reynolds Number Flow Using Particle Image Velocimetry (PIV)" (report link)
- Delivered a 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 Star-CCM+, Fusion 360, SolidWorks, Adobe Creative Suite, and machine learning (Keras and Tensorflow)
- Novice in Git, 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
- Led the Quest University Social Dance Club, and taught dancing
- Peer reviewed for Quest University's academic journal - Momenta