

Hon Man “Herman” MAK

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EDUCATION

PhD Fluid Mechanics

Nov 2021 – Present

ONERA - The French Aerospace Lab & LadHyX - École polytechnique

Paris, France

- Currently completing dissertation on research in stability and resolvent analysis for optimal aeroelastic gust response prediction using finite element analysis with *FEniCSx* on *Python*
- Peer-reviewed conference proceeding and presentation: Herman Mak, Olivier Marquet, Lutz Lesshafft. “Resolvent Analysis for Aerofoil Response to Optimal Gusts.” 10th International Symposium on Fluid-Structures Interaction, Fluid-Sound Interactions, Flow-Induced Vibration, and Noise. Foz do Iguaçu, Brazil. 2-5 July 2024.

MSc Advanced Aeronautical Engineering

Oct 2020 – Oct 2021

Imperial College London; Distinction

London, UK

- Graduated with distinction (equivalent to Mention très bien)
- 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; GPA: 3.76/4.00

Squamish, BC, Canada

- President’s List: Spring/Fall 2018, Spring 2019; Quest University Canada Scholarship recipient
- Designed a self-directed curriculum integrating courses across multiple disciplines to explore fluid mechanics and its impacts on vehicles; classes are all uniquely conducted in round-table discussions further engendering interdisciplinary, creative, inquiry-based small-group learning
- Courses followed a sequential 3.5 week block structure, where we undertook multiple time constrained, independent/group research projects per course
- 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 – Mar 2021

- Collaborated with a small team to design the shape of the nose-cone and body-panels for the 2021 Imperial Formula Racing student car
- Delegated work to meet quick turnaround time for conceptual design
- Gained a strong understanding of Star-CCM+ within a week to analyse the car flow field

Physics Momentum Model | *Python*

Jan 2018 – Feb 2018

- Self taught Python to develop a numerical experimental-data-driven physics model in multiple increasingly complex real-world scenarios during a Physics 1 course
- Sole student in the history of Quest University to accurately model the physics in a rotating reference frame by pulling from knowledge garnered from other courses and applying innovative noise and error correction techniques

RELEVANT SKILLS

- Proficient in Python, LaTeX, and Microsoft Office/iWorks Productivity Suites
- Experience in Git, MATLAB, Star-CCM+, Fusion 360, SolidWorks, and Adobe Creative Suite
- Novice in C++, Fortran, MySQL, HTML, Javascript, and machine learning (Keras and Tensorflow)
- Languages: English (fluent), Cantonese (fluent), Mandarin (C2), and French (B2-C1)

WORK EXPERIENCE

Teaching Assistant

Sep 2022 – Mar 2020

École polytechnique

Paris, France

- Assisted in the teaching of Diplôme d'Ingénieur courses at École polytechnique including third year *Aerodynamics*, and second year *Projet Scientifique Collectifs* in sports aerodynamics, as well as a first year BSc course *Beginner's Physics Lab II*
- Proposed and developed student projects in CFD for aforementioned Aerodynamics course

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
- Designed and led academic workshops on technical skills such as Excel and LaTeX
- Improved 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

Visiting Research Student

Oct 2019 – Jan 2020

University of Southampton

Southampton, UK

- Designed and conducted experimental fluid dynamics research on aerofoils using a low speed water flume, independently mastering relevant software and auditing related courses
- Acquired laboratory skills such as data collection and analysis, and model CAD design, material selection and manufacturing

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, ensuring seamless operation
- Put the team weeks ahead of schedule by proactively learning HTML, JavaScript, and MySQL 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 to Immigrants & Refugees

Nov 2018 – Mar 2020

Immigrant Services Society of BC

Squamish, BC, Canada

Mentor/Big Brother for High School Students

Jan 2018 - Apr 2019

Big Brothers Big Sisters of Canada

Squamish, BC, Canada

Dance Teaching Assistant for Under-Privileged Children

Aug 2014 - Jun 2016

Kennes Yiu Dance Studio

Hong Kong

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