Larry Hui

+1(650) 207-1271 | larryhui7@gmail.com | linkedin.com/in/larryhui7

EDUCATION

University of California, Berkeley | Imperial College London **Aug. 2022 – May 2026**
B.S in Mechanical Engineering and Electrical Engineering and Computer Science (EECS) *Berkeley, CA / London, UK*

- **Courses**: CAD/GD&T/Manufacturing; Solid Mechanics; Controls and Feedback; Thermodynamics; Fluid Mechanics; Dynamics; Heat Transfer; Statistics; Continuum Mechanics; FEA; Turbomachinery; DEI; Signal Processing; Fracture Mechanics; Optimization Models in Engineering; Electronics & Internet of Things; Economic Models; Experimentation and Measurements; Mechanical Behaviour of Materials; Convective Transport; Machine Learning; Product Development; Digital Humanities; Astronomy
- **Advanced**: Structures Engineer for Space Enterprise at Berkeley (liquid bi-propellant rocket design); FLOW Lab Researcher (Prof. Simo Makiharju) manufacturing parts for a flow loop and splash-proof chilled X-ray detector. Studied abroad at Imperial College London for my sophomore year; Aerodynamics on ICL Formula Racing Team, Pilot's and Gliding Society; ASME, IEEE, IMechE.

Crescent School **June 2022**
OSSD High School Diploma *Toronto, ON*

- **Honours:** Headmaster's Honour Roll x4, Board of Governors Award[1], Appoggiatura Prize[2], George S. Blodgett Memorial Prize[3].
- **Activities and Societies:** Senior Jazz Band, Symphonic Band, DECA, Swim Team Member, and Peer Tutor, Head of Arts Council.

Columbia University **July, 2019**
Pre-college course and Certificate in Banking, Corporate Finance, and Securities *New York City, NY*

- Top performing portfolio (securities/derivatives) that placed near the top worldwide against other universities; **Advisor**: Phillip Toth
- Utilised financial theories, MPT, and analysis of company reports; Measured a risk-adjusted performance of an investment portfolio.

EXPERIENCE AND PROJECTS

Outer Rim Exploration: *Hardware/Mechanical Engineering Intern* **July 2024 – Current**

- Created plastic CAD model for drone-based muon hodoscope integrating PCB design; testing, validating muon flux observations.
- Provided a **hardware review**: topology analysis to decrease mass and increase stiffness; wrote FEA program subjected to any boundary conditions in MATLAB (no simulation tools) to test buckling; researched alternative deployment methods to linear slides (pantographic, elastically deformable); Created rotation stage with solenoid pins to control zenith angle; gearing of rotation.

Compressed-Gas Car Design: *Co-designer and CAD and Failure Mitigation Lead* **Oct. 2023 – Dec. 2023**

- Manufactured a compressed-gas vehicle prototype using mills, lathes, 3D printers, rollers CNC and Laser Cutters; Using Pugh's Total Design approach, created an encased Pelton turbine, shaft–pulley system geared for higher torque; Managed Gantt chart;
- Toleranced engineering drawings; measurement reports; FEA led to selecting Tensol-12 DCM for chassis (FoS from 1.1 to 3.4).

Wind Turbine Design: *Aerodynamics and Engineering Lead* **Sept 2022 – Dec. 2022**

- As the **top-scoring** group in a class of 250, self-managed a group of 5 people to design the most powerful wind turbine in Solidworks given a 2-week time, and dimension constraints; performed optimization and flow simulations to increase efficiency.
- Solved mass problem by implementing a truss over a wave-infill cylinder; minimised bending while retaining a high moment of inertia.

Harvard University: *Student Physics Researcher* **Sept. 2020 – Sept. 2022**

- Researched alongside Prof. Carey Witkov, Dr. Keith Zengel (ATLAS LHC), Dr. Eric Arsenault introduced chi-squared model testing as an alternative to linear regression; used this to find fractal dimension to improve the accuracy of model testing and parameter fitting.
    - Published in the International Scholarly Review[4]; set up weekly Zoom meetings to track progress.
- Researched G.E.P Box's Helicopter; Implementation of chi-squared over Hausdorff dims or box-counting in fractal generative design

RBC Dominion Securities Wealth Management: *Summer Research Intern* **June 2022 – Aug. 2022**

- Assigned by the portfolio manager to research and study the AI industry with regards to finance.
- Tracked key companies and performed industry and company analysis to judge their potential growth in the next 5-10 years.
- Learned/utilised prediction programs using LSTM model and Plotly dash Python framework for building dashboards.

SKILLS & CERTIFICATIONS

- **Skills:** CAD; FEA; CFD; GD&T; MATLAB; ANSYS; Simulink; LabVIEW; Python; Java; MS Office; Problem-Solving; Adobe Cloud; Excited about learning; Team player; Report Writing; Self-motivated; Punctual; Proactive; Passionate about flying & music; Well-travelled/culturally diverse; Independent; ABAQUS; Topology optimization management;
- **Languages**: English (Native), Mandarin (Native), French (Fluent), German (taking class now for A1/A2)
- **Certifications**: Private Pilot's Licence; DELF B2; First Class Piano Level 10 at the RCM; Driver License (Manual/Automatic)

PUBLICATIONS

Hui, Larry. Witkov, Carey. *Data Analysis and Chi-Squared Model Testing: Fractal Dimension of Crumpled Paper.* International Scholarly Review 1(2) 23–32. 2021.[4]

AWARDS

Board of Governors Award[1]: Most all-rounded student who shows outstanding performance in academics, outreach, and co-curriculars.
George S. Blodgett Memorial Prize[3]: Student, who, through hard work and dedication, shows a sense of appreciation of the classics.
Duke of Edinburgh Silver Award: awarded for personal development, community service, leadership, and outdoor exploration