

Alex Y. Wen

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<https://alexwenym.github.io>

Education

2017–22 **University of British Columbia**
BSc. Candidate, Major Combined Honours Physics & Math, Minor History

Research

2021 **Institute for Quantum Computing** (4 mo. full time)
Undergraduate Research Assistant, Pushin Group
Characterizing optical properties of silicon crystals for grating interferometers

2020-21 **General Fusion Inc.** (8 mo. full time)
Plasma Theory Simulations Student
Simulations of compressing magnetized plasmas for nuclear fusion stability conditions

2020 **University of Toronto & CERN** (4 mo. full time)
Analysis Student, ATLAS Group
Analysis for reducing uncertainty on measurements of Higgs boson mass. IPP CERN Summer Student; physical work at CERN cancelled due to COVID-19

2019 **Imperial College London** (2 mo. full time)
Statistics Research Student, LHCb Group
Development of two-sample statistical tests with sensitivities for detection of CP violation

2019 **University of British Columbia** (2 mo. full time)
Machine Learning Student, ATLAS Group
Application of machine learning (hybrid tree-sequence neural networks) to identify rare physics processes (top decays)

2017-20 **TRIUMF** (4 mo. full time, since then part-time during school year)
Nuclear Physics Research Assistant, ElectroMagnetic Mass Analyzer (EMMA) Group
Nuclear calculations and Monte Carlo simulations of detector to study astrophysical nuclear reactions

2018 **SNOLAB** (4 mo. full time)
Simulations Student, New Experiments With Spheres – Gas (NEWS-G) Group
Detector simulations and signal processing to characterize the effect of neutron radiation on the performance of light dark matter detector

Projects

2019- **UBC Biomedical Engineering Student Design Team**
Machine Learning Engineer
Data processing & training to discriminate between brain EEG signals for home automation

Other Work Experience

- 2019- **UBC Physics Department**
Teaching Assistant: Physics 100 (*Introductory Physics*), 216 (*Intermediate Mechanics*), 157 (*Physics for Engineers*)
- 2018-19 **AMS Student Society of UBC**
Physics & Math Group Tutor
- 2017-19 **Wesley Music and Arts Academy**
Speech and Debate Instructor

Conferences & Schools (link to presentation slides)

- 2021 Canadian Undergraduate Physics Conference (CUPC) [Ryerson]
- 2021 Undergraduate School for Quantum Information Processing (USEQIP) [Institute for Quantum Computing/Waterloo]
- 2020 CUPC [Western Ontario]
- 2020 Summer Student Programme [CERN]
- 2019 CUPC [McGill]
- 2019 Canadian Astroparticle Physics Summer School (CAPSS) [McDonald Institute/Queen's]
- 2016 International Summer School for Young Physicists (ISSYP) [Perimeter Institute]

Recent Awards & Grants

- 2021 **Institute for Quantum Computing** Undergraduate Research Award - \$10,000
- 2020 **Canada Institute of Particle Physics** CERN Summer Student Fellowship
- 2019-20 **Canadian Natural Sciences & Engineering Research Council (NSERC)** Undergraduate Student Research Award (USRA) public research grant ($\times 2$) - \$12,000 *total*
- 2018-20 **UBC** Trek Excellence Award ($\times 3$) - *top 5% (top ~100 students out of ~2000) of year and faculty - \$4,500 total*
- 2019-20 **UBC** Science Scholar ($\times 2$) - *total course average of 90%+*
- 2019-20 **UBC Faculty of Science** J. Fred Muir Memorial Scholarship ($\times 2$) - \$570
- 2019 **UBC Go Global** Undergraduate Research Program Award - \$2,000
- 2019 **UBC Mathematics** Stanley M. Grant Scholarship - \$1,500

Total: \$30,570 CAD