

## Alex Y. Wen

wenalex@student.ubc.ca

<https://alexwenym.github.io>

### Education

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

### Research

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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

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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

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- 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)

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

#### Awards & Grants

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- 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