

## Alex Yuanming Wen

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<https://alexwenym.github.io>

*I'd like to understand why things happen.*

### Education

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2017–22    **University of British Columbia (UBC)**  
BSc. Candidate, Major in Combined Honours Physics and Mathematics, Minor in History  
*Year 3 of 5 in 2019-20*

### Research

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2019        **Imperial College London, High Energy Physics** (July - August)  
Research Student, LHCb Experiment  
*Development and analysis of two-sample statistical tests with extreme sensitivities for particle physics analysis (detection of CP violation with matter/antimatter decay asymmetry)*

2019        **UBC, Physics Department** (May - June)  
Summer Student, ATLAS Experiment  
*Application of machine learning (hybrid tree-sequence neural networks) to identify rare physics processes (top decays)*

2017-       **TRIUMF** (Summer 2017, since then part-time during school year)  
Research Assistant, ElectroMagnetic Mass Analyzer (EMMA) Collaboration  
*Accelerator beam-target reaction & Monte Carlo simulations of detector to study nuclear reactions with astrophysical motivations*

2018        **SNOLAB** (May - August)  
Research Assistant, New Experiments With Spheres – Gas (NEWS-G) Collaboration  
*Calibration source simulations, detector simulations, and signal processing to characterize the effect of neutron radiation on the performance of upcoming light dark matter detector*

### Projects

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

### Other Work Experience

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2019-       **UBC, Physics Department**  
Teaching Assistant, Physics 100 (*Introductory Physics*) & 216 (*Intermediate Mechanics*)

2018-19    **AMS Student Society of UBC**  
Physics & Math Group Tutor

2017-19     **Wesley Music and Arts Academy**  
Speech and Debate Instructor

### Conferences, Schools, and Symposia

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2019        Canadian Undergraduate Physics Conference (McGill)  
2019        Canadian Astroparticle Physics Summer School (McDonald Institute/Queen's)  
2016        International Summer School for Young Physicists (Perimeter Institute)

### Honours and Awards

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2018,19     **UBC Trek Excellence Award** ( $\times 2$ ) - *academically top 5% of year and faculty*  
2019        **UBC Science Scholar** - *total course average of 90%+*  
2019        **UBC Faculty of Science J. Fred Muir Memorial Scholarship**  
2019        **UBC Department of Mathematics Stanley M. Grant Scholarship**  
2017-18     **UBC Science One Gateway Program Class President**  
2017        **TRIUMF High School Fellow**  
2017        **SOAR Philanthropic Society Scholarship**

### Relevant Certifications

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2019        Authorization and Training for Basic Machine Shop Tools (UBC Physics Department)  
2018        Workplace Tagging and Lockout Procedures (SNOLAB/Vale Mining)

### A Collection of Relevant Buzzwords

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Particle Physics | Computing | **Python** | **C/C++** | Statistics | **Machine Learning** | Monte Carlo | Phenomenology | Nuclear Physics | Geant4 | ROOT | PyTorch | TeX | Speech | Debate | Writing | Teaching | Table Tennis | Running | Kayaking | History | Technology |