# Henry Xia

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## Profile

Competed in programming competitions for five years and math competitions for nine years, including both individual and team competitions. Experienced in algorithms and data structures. Worked with computer vision models, web apps, front-end, and back-end. Familiar with Linux environments.
**Programming Languages**: C, C++, Python, C#, Java, Golang

## Education

University of British Columbia, Vancouver, Canada — September 2016 – May 2021

Combined Honours in Computer Science and Mathematics
*Courses include* Machine Learning, Software Engineering, Theory of Computation, Randomized Algorithms, Combinatorial Optimization, Probability Theory, Real/Complex Analysis, Analytic Combinatorics, Analytic Number Theory, Discrete Math

## Experiences

Quantitative Technologist (Radix Trading) — July 2021 – Present

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NSERC Undergraduate Student Research Award (UBC) — May 2020 – August 2020

- Studied tree embeddings for outerplanar graphs, and applied results to the maximum edge-disjoint paths problem.
- Published in Integer Programming and Combinatorial Optimization 2021. `https://arxiv.org/abs/2007.10537`

Software Engineer Internship (Facebook AI) — September 2019 – November 2019

- Experimented with different attention gates and fusion architectures in multimodal models for video classification
- Implemented gating modules and fusion architectures using PyTorch and observed improvements in accuracy

Software Engineer Internship (Microsoft) — May 2019 – July 2019

- Created a dashboard to display the deployment progress for the Azure Kubernetes Service
- Designed and implemented both the front-end and the back-end components
- Learned Golang with Docker and Kubernetes for deploying the dashboard

Software Engineer Internship (Microsoft Garage) — May 2018 – August 2018

- Collaborated with BC Cancer to create a tool for visualizing cancer cells
- Designed and developed a mixed reality app and a companion web app using Unity and C#

## Achievements

- Qualified for Facebook Hacker Cup Round 3 (Top 200 in a worldwide competition) — August 2020
- 1st in Division One, ICPC Pacific Northwest Regional — November 2019
  - Teams of three compete to solve algorithmic problems for five hours
- 45th at the 2019 ICPC World Finals — April 2019
- 120th in North America (top 3%), Putnam Math Competition — December 2018
- 1st in Division One, ICPC Pacific Northwest Regional — November 2018
- Stanley M Grant Scholarship in Mathematics — September 2018
- Qualified for Google Code Jam Round 3 (Top 1000 in a worldwide competition) — May 2018
- 130th in North America (top 3%), Putnam Math Competition — December 2017
- Trek Excellence Scholarship for Continuing Students (top 5% at UBC) — September 2017
- 2nd in Division Two, ICPC Pacific Northwest Regional — November 2016
- Canadian Mathematics Olympiad Qualification — 2015, 2016
- USA Math Olympiad and Asian Pacific Math Olympiad Qualification — 2015
- 3rd in Canada, Canadian Open Mathematics Challenge — November 2014