

# ANTON CHEN

Combined Major in Computer Science and Mathematics, 2nd Year Student

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## TECHNICAL PROJECTS

### AI Rubik's Cube Solver

July 2020 (40 hours)

- Used Python to create a model of a Rubik's Cube, generating random scramble patterns and the corresponding move sequence solutions.
- Trained on 10 million generated training examples to learn solutions from an LSTM encoder/decoder network written with TensorFlow to solve any scrambled Rubik's Cube.

### Virtual Ball Pit

January 2020 - April 2020 (40 hours)

- Used Java to create a simple 2-dimensional physics engine where balls of user-specified size are simulated, modelling inelastic collisions between objects.
- Used Java Swing to create GUI, and JUnit for rigorous object collision unit testing.

## EXTRACURRICULAR EXPERIENCE

### Competitive Robotics

VEX Robotics Club at Sir Winston Churchill High School

September 2018 - February 2019 Edmonton, AB

- Group member in a year-long group project to design, build, and code a VEX robot from scratch. Roles include robot design, and writing instructions for robot controls and autonomous action in ROBOT-C, a language similar to the C programming language.
- Represented Sir Winston Churchill High School at the Alberta Provincial VEX Championship at the Northern Alberta Institute of Technology, placing in the semi-final round.

### Volunteering and Community Service

"UNICEF Club" and "Volunteer Churchill" clubs at Sir Winston Churchill High School

September 2016 - June 2019 Calgary, AB

- Over 50 hours of volunteer experience across both organizations (2016-2019).
- Tutor for "Coding Buddies", an organization teaching grade school kids programming fundamentals, using block-based languages such as Scratch, along with code.org projects and games (2018-2019).
- Hosted regional debate tournaments, and volunteered for community events, bottle drives, food preparation for homeless shelters, etc.

### Music

Piano and Trumpet

2016-2019

- Royal Conservatory of Music graduate for level 10 piano, with honours (2016).
- Former trumpet section leader for the Sir Winston Churchill High School Symphonic Band and Jazz Band (2017-2019).
- Performed "Last Post" for Remembrance Day ceremonies at Sir Winston Churchill High School and Brentwood Elementary School, for more than 2500 people.

## AWARDS



### Certificates of Distinction

Received for the Euclid, Pascal, Fryer, Fermat, and Gauss mathematics contests at the University of Waterloo. (2014-2019)



### Scholarship Recipient

Alexander Rutherford High School Achievement Scholarship. (2019)



### Calgary Performing Arts Festival

Gold award for Grade 9 Concert Piano (2015), and Red award for Grade 10 Concert Piano (2016)

## SKILLS

C++: software construction, data abstraction

Python: task automation (e.g. webscraping)

Java: software construction, data abstraction

Racket: recursive functional algorithm design

## EDUCATION

### Post-Secondary

University of British Columbia

2019- 2023

- Second year student in the Faculty of Science.
- Enrolled in Honours mathematics courses (Honours Differential and Integral Calculus)

### Secondary

Sir Winston Churchill High School

2016 - 2019

- Graduated with an applying average of 96%.

International Baccalaureate (IB)

2017 - 2019

- Completed the IB Diploma Course Program (Math HL - 7/7, Physics SL - 7/7, and World History HL - 6/7).