

Declan Chan

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Profile

First-Year Engineering Science Student at the University of Toronto with programming experience and a background in conducting scientific research throughout the IB program. Demonstrated leadership, commitment, and teamwork through athletics, teaching, and student organizations, while balancing academics.

Skills and Proficiencies

Programming: Python, C, MATLAB, HTML, CSS, LaTeX

3D Design: SolidWorks, OnShape, CAD

Education

Engineering Science @ U of T

2025–Present

- First-year student

International Baccalaureate Diploma Programme

2021–2025

- IB Score: 45/45

Ontario Secondary School Diploma

2021–2025

- Top 6 Average: 99.67%
- Director's Achievement Award

Experiences

Senior Karate Instructor @ Northern Karate Schools

2021–Present

- Yondan: Certified 4th Degree Black Belt.
- Certification: Blended Standard First Aid & CPR/AED Level C.
- Teaching 100+ students every week for kids, teens, and adults.
- Providing private classes with kids on the regional team.

Robotics for Space Exploration (RSX) @ U of T

2025–Present

- Mechanical Designer using SolidWorks and CAD to model 3D parts for a robotic arm.
- Collaboration with electrical and software teams to create the ultimate space rover.
- Will take part in Mars Society's University Rover Challenge (URC) in 2026.

Rubik's Cube Club

2023–2025

- President who organized school-wide competitions with 30+ competitors.
- Taught beginners how to solve a Rubik's Cube and improve to get faster.

Peer Mentor Program

2023–2024

- Mentored new IB students in mathematics and physics.
- Tutored students in need of credit consolidation and recovery in mathematics.

NFT Automation Developer

2021–2022

- Programmed a macro that registered NFTs on OpenSea.io with Ethereum.
- Explored the Polygon Ethereum blockchain scaling solution.
- Created aesthetic websites and useful mathematical tools.

Research Projects

Astrophysics Extended Essay

2024–2025

- Explored the existence of the Yarkovsky effect from asteroids' physical and orbital properties.
- 4000 word essay achieved with extensive research, physics calculations and from teacher mentorship.

Chemistry Kinetics Investigation

2024–2025

- Investigated the effect of temperature on the rate constant in the hydrolysis of ethyl acetate.
- Experiments to collect data were conducted through a personalized lab methodology.

Rotational Dynamics Study <ul style="list-style-type: none"> ○ Studied how the velocity of a volleyball serve affects the ball's angular velocity. ○ Independently learned how the Magnus effect works through calculations and primary research. 	2023–2024
Mathematical Modeling Analysis <ul style="list-style-type: none"> ○ Analyzed how the density of a violin affects its market price. ○ Independently learned how to calculate volumes of irregular shapes using integration. 	2023–2024
Arts & Athletics <hr/>	
Varsity Volleyball <ul style="list-style-type: none"> ○ Team Captain in Grade 10 and 12. ○ Invited to Brock University invitational tournament. ○ Gold medal regional Toronto tournament. ○ Tier 1 YRAA Championship junior varsity second place. ○ Tier 1 YRAA Championship senior varsity second place. 	2022–2025
World Rubik's Cube Competitions <ul style="list-style-type: none"> ○ Top 90 in Canada for 3x3x3 fewest moves. ○ Top 600 in Canada for 3x3x3 one-handed. ○ Participated in multiple international events. ○ Volunteered as a judge for the World Cube Association. 	2023–2024
Music Performance <ul style="list-style-type: none"> ○ Theory and Instrumental: Level 10 RCM comprehensive certificate with First Class Honors. ○ Piano: Level 10 RCM practical certificate with First Class Honors with Distinction (91%). ○ Violin: Level 8 RCM practical certificate with First Class Honors with Distinction (90%). 	2014–2023
Rep Thundercats Volleyball <ul style="list-style-type: none"> ○ Team Captain in OVA who led many provincial tournaments with several medals. ○ Awarded twice for MVP. ○ Second place in a national tournament. 	2019–2023
International Karate Competitions <ul style="list-style-type: none"> ○ Gold medal at the WKC Toronto International Tournament of Martial Arts Champions. ○ Multiple provincial competitions. 	2022–2023