

# Daniel Chua

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## EDUCATION

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### University of Toronto

*B.A.Sc in Engineering Science, PEY Co-op*

September 2021 - Present

*Expected June 2025*

- Intended Minor in Nanoengineering and Mathematics
- CGPA: 3.82/4.00, GPA: 3.83/4.00
- Dean's List: Fall Semester 2021, Winter Semester 2022

## TECHNICAL SKILLS

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**Programming Languages:** Bash, Python, MATLAB, C#, C, Systems Verilog, RISC-V Assembly

**Miscellaneous:** GitHub, Linux CLI, LaTeX, Markdown, Vim

**Office Suite:** Microsoft Word, Excel, PowerPoint, Outlook

**Languages:** Fluent in English and Chinese (Cantonese and Mandarin)

## PROJECTS

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### Re-imagining Karl Sims' 1994 "Evolving Virtual Creatures" Paper

October 2022 - April 2023

*Evolution RL Team*

- Re-implemented the Evolution of Virtual Creatures using the Unity Engine
- Applied Evolution Algorithm to optimize shape of swimming creature
- Applied Reinforcement Learning to optimize neurons for motor control

### UTWind Blade Design

September 2022 - April 2023

*Aerodynamics Team*

- Given current design of wind turbine
- Designed, tested and 3D printed an improved blade using computer simulation and testing in wind tunnel
- Applied CFD (Computational Fluid Dynamics) to optimize blade tip

### Wheelchair Assistance Design (Request For Proposal)

January 2022 - February 2022

- Request for proposal to improve the ease for children in manual wheelchairs to independently traverse up slopes
- Researched community needs and wrote an RFP outlining actionable objectives for my team
- Interviewed representatives from Easter Seals Ontario to understand the needs of the children and parents
- Consulted international standards, e.g. ISO 7176 for safety requirements. Considered reference designs such as motor additions, manual levers, etc.

## COMMUNITY & LEADERSHIP

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### Investment Group Leader

September 2022 - April 2023

*University of Toronto Chinese Christian Fellowship*

*University of Toronto*

- Plans and facilitates weekly bible study sessions
- Organizes monthly gatherings

### NSS Administrative Director

September 2019 – July 2020

*Student Council*

*Diocesan Boys' School*

- Oversees academic services provided to G10 - G12 students
- Organises academic talks, provides resources for the selection of electives
- Works as part of a team to ensure smooth operation of the Student Council

### Co - Chairman

September 2019 – July 2020

*Business and Promotion Department*

*Diocesan Boys' School*

- Drafts annual plan of the department
- Responsible for distribution of School magazine to the student population