

# Jason Zhang

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## EDUCATION

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### University of Toronto

*Bachelor of Applied Science, Computer Engineering*

Sep. 2022 – Apr. 2027 (expected)

*Professional Experience Year (PEY) Co-op*

Relevant courses: Programming Fundamentals (C/C++), Digital Systems (Verilog), Engineering Strategies and Practice

## EXPERIENCE

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### Electrical Engineer

Oct. 2023 – present

*University of Toronto Aerospace Team – Space Systems*

- Designing printed circuit boards (PCBs) for our next-generation cubesat FINCH using **Altium Designer**
- Designing, routing, and laying out a **solar multiplexer to control power distribution** from solar panels to internal components (communications, altitude control, cameras)

### Undergraduate Research Assistant

May 2023 – Aug. 2023

*Institute of Biomedical Engineering*

*Toronto, ON*

- Assessed support and development of engineering graduate students' pedagogical skills using interview data
- Conducted manual and automated thematic analysis using applied natural language processing and data analysis tools in Python, like **NLTK**, **pandas**, and **Matplotlib**
- Poster dissemination at **two research conferences**, winning the top researcher award out of 150 presenters at the Undergraduate Engineering Research Day (UnERD) conference

### Teaching Assistant

Jul. 2023 – Aug. 2023

*University of Toronto, D.E.E.P*

- Assisted instructors in teaching university-level material in the Da Vinci Engineering Enrichment Program for the **Computer Vision and Data Analytics** and **Introduction to Electromagnetic Theory** courses
- Taught foundational use of Python libraries like **NumPy**, **pandas**, **PyTorch**, **Matplotlib**, and electronic test equipment like oscilloscopes and function generators in workshops and course projects
- Facilitated class discussions and student understanding of course material to develop course projects

### Project Manager

Jan. 2023 – Apr. 2023

*University of Toronto*

- Formulated and designed a new commuter student space at Chestnut Residence with a team of 6; liaised with an industry client, Dr. David Kim of the Division of Spaces and Experiences
- Defined **50 pages of conceptual design specifications** with implementation of engineering estimation models and simulations; design is accessible, cost-conscious, and safety-focused

## PROJECTS

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### Whack-an-Engineer | *Verilog*

Nov. 2023 – Dec. 2023

- Whack-a-mole inspired game for the Altera Cyclone V FPGA (on Terasic's DE-1 SoC platform)
- Built a PS/2 keyboard and VGA display interface, incorporated complex control/data paths and clock crossing
- Reduced timing delays with logic simplification and waveform simulation in ModelSim by nearly 60%

### Chemical Vehicle | *Arduino, Django*

Oct. 2022 – present

- Built circuitry and programmed an **Arduino** for the University of Toronto Chemical Vehicles (UTCV)'s 2023 competition car, winning a regional competition in Montréal
- Currently building a **Django** web application to visualise and model chemical data in a human-readable way

## TECHNICAL SKILLS

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**Languages:** C/C++, Python, MATLAB, Verilog, Java, HTML/CSS, SPARQL

**Frameworks/Libraries:** Django, NumPy, pandas, Matplotlib, NLTK

**Tools:** Git, MediaWiki, Linux, Quartus Prime, ModelSim, Maven