# Matthew Ji

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## Education

**Western University** — London, ON
*Bachelor of Engineering Science, Mechatronics & AI Systems Engineering* — *Sep. 2025 – May 2030*
- Dean's Honour List, GPA: 3.7/4.0

## Projects

**Custom Flywheel Cage** | *SOLIDWORKS, Arduino* — October 2026 – Present
- Designing a custom brushless flywheel cage for foam blaster

**MC Sim for PTCG World Championships** | *Java, Mathematical Modelling* — August 2026 – September 2026
- Built a Java simulator of a 3 phase championship format and ran 10,000 tournaments with 750 players
- Resolved each match using weighted sampling from head-to-head win rates across real events
- Reported per-deck conversion from field to each phase, and published a writeup documenting method, charts, and model assumptions

**Beetleweight Combat Robot** | *SOLIDWORKS, Bambu Studio* — April 2026 – September 2026
- Designed and built a 3lb combat robot from scratch

**Limitless Tracker** | *Claude Code, Javascript, Web Development* — February 2026 – September 2026
- Created web-app to track Pokémon player and deck statistics across online tournaments.
- Database with 55k+ players across 8k+ tournaments tracking 200+ archetypes.
- Includes in depth historical usage analytics on archetypes and cards.

**Hospital Asset Tracker** | *Onshape, BLE, Codex* — November 2025 – March 2026
- Worked with a team to create asset tracking system for a local hospital based on objectives and constraints from client
- Uses BLE technology and uses the Paho MQTT library to receive data from a server

## Experience

**Regular Class Design Team Member** — September 2026 – Present
*Western Areo Design* — *London, ON*
- Building an aircraft for the SAE Aero Design competition

**Competition Staff Member** — January 2023 – August 2026
*World Cube Association* — *Various Locations*
- Staffed the *Rubik's WCA World Championship 2025* among various other competitions

**Math Coach** — September 2023 – June 2025
*RSS Math Team* — *Richmond, BC*
- Selected and trained math team by curating custom material for students based on yearly weaknesses and curriculum
- Resulted in multiple regional individual and team podiums, top placements, and invitations to the provincial championships each year

**Frontend Web Developer** — September 2022 – July 2024
*The Morning Mission Senior Society* — *Richmond, BC*
- Worked with a group of designers to create the website based on expectations and met strict deadline

**Competition Organizer** — January 2023 – February 2024
*World Cube Association* — *Vancouver, BC*
- Organized multiple speed-cubing competitions, hosting up to 90 competitors
- Worked with Speedcubing Canada and CubingOutLoud to gain publicity and sponsor the competition prize pools.
- Created and managed a competition schedule, webpage, and inquiries

## Skills, Languages, & References

**Technical Skills & Software**: SOLIDWORKS, MATLAB, Simulink, Bambu Studio, Adobe Suite, Java, Python, Web Development, Electronics/Robotics
**Languages**: English, French, Mandarin, Cantonese
**References**: Available upon request