

# Amit Weis

## Mechatronics Engineering Student



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## Education

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### University of Waterloo

3.95 GPA

Candidate for Bachelor of Applied Science in Mechatronics Engineering

*Graduation expected April 2030*

## Experience

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### Junior Software Developer at Packet39

Jan 2023 - Present

- Annotated data for a custom augmented reality engine that combined machine learning and computer vision for the Rod Laver Tennis Arena in Melbourne, Australia.
- Optimized Materials for an augmented reality exposure therapy app for PTSD patients at the Wayne State University hospital that won the "XR Healthcare Solution of the Year" at the AIXR EuropeXR Awards 2025.

### Co-Lead at MechMania

May 2024 - May 2025

- Managed a team of over ten people and oversaw several parts of the event planning process including website design and development, logistical organization and sponsor communications.
- Ran a free-of-charge robotics competition at the University of Waterloo's PSE (formerly E7) with over 120 competing students and established a returning event now entering its third consecutive year.
- Raised several thousands of dollars via sponsor outreach.

### Design Director at SproutHacks

Jan 2024 - Feb 2025

- Presented during the event at the Conestoga College's Waterloo Campus to over 100 competing participants.
- Designed and maintained the event website and branded merchandise.
- Managed social media strategy and coordinating recruitment efforts to drive participation and growth.

## Projects

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*see website portfolio for more info on projects*

### Bttrpie

Nov 2025

- Designed and built a mini-pool table with an automatic and autonomous ball sorting system using a 3-axis gantry and a grabber claw.
- Implemented PID motion control for a 3-axis rack-and-pinion gantry that has accurate blind positioning
- Designed all mechanical components in SolidWorks and validated the physical design through SolidWorks motion and structural simulations.

### ARmatica

May 2025

- Built an augmented reality hardware prototyping assistant that overlays 3D circuit schematics onto physical breadboards using an 11-gram tracking module.
- Developed a Flask backend to automatically convert 2D electrical schematics into 3D spatial models and a web application for schematic uploads.

### 3D-Snake

Jan 2025

- Designed and implemented a physical 3D Snake game on a  $5 \times 5 \times 5$  LED matrix cube within a strict one KB memory constraint on an Arduino Mega
- Engineered a multiplexed LED addressing and control system to simulate a real-time volumetric display.

## Summary Of Skills

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**Design:** SolidWorks CAD, Motion Simulation, Structural Analysis, Design For Manufacturing,

**Software Development:** Unity, C++, Python, Unix Command Line, Web Development

**Computer Science:** AR Development, Machine Learning, Data Annotation, 3D Spatial Modeling

**Hardware:** Circuit Design, Robotics, Embedded Systems, Hardware Prototyping, PCB Design

**Communication:** Team Leadership, Sponsorship Acquisition, Public Speaking, Budget Management