

# DAVID XU

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## Education

### University of Toronto

Bachelor of Applied Science in Electrical Engineering

Sep. 2022 – May 2027

Toronto, Ontario, Canada

- **GPA and Honours:** 3.7/4.0; Dean's Honour List; PEY Coop; Ontario Professional Engineering Scholarship

### Relevant Courses

- Algorithm Design
- Data Structures
- Deep Learning
- Computer Architecture
- Computer Hardware
- Operating Systems

## Skills

**Languages:** C, C++, Java, Python/Pytorch, SQL, MATLAB, Typescript/Javascript, Verilog, HTML, CSS, Assembly

**Library/Frameworks:** React, OpenCV, AWS, Linux/Bash, Docker, Git, Node.js, Bootstrap, Homebrew, JUCE

**Technologies:** Databricks, Autocad, Fusion 360, Altium, NI Multisim, Figma, Quartus, Lightroom, Photoshop, Illustrator

## Work Experience

### Magna International

Machine-Vision/AI Engineering Intern

Sep 2025 – Present

Toronto, Ontario, Canada

- Integrated with **R&D** team to optimize **machine vision** pipeline for automotive quality inspection with **98%** accuracy.
- Developed scalable data processing scripts using **Python/SQL** on **AWS** using **Databricks** for training/inference.
- Optimized pipeline with **OpenCV/PyTorch** in RDP Docker/CUDA/Linux environments for remote training.
- Facilitated daily standups with factory to assess **CVAT** annotation progress, resolve labeling issues, and delegate work.

## Projects

### Virtual AR Drumset | Typescript, AR/VR, Hack The North

Sep. 2025

- Built a hand-gesture controlled **AR** virtual drum in **TypeScript** using Snap Spectacles Lens Studio, similar to Unity.
- Guided 3 teammates created 3D assets, built gesture logic, and shipped a AR virtual drum in 36hr; winning **3rd** place.
- Engineered **WiFi/WebSocket** physical kick-drum to trigger audio on QNX **RTOS** to deliver realistic AR drumming.

### Personal Website | React, Git, Vite

Apr. 2025 – May. 2025

- Developed a personal portfolio using **React** and **Tailwind CSS**, emphasizing clean **UI/UX** and responsiveness design.
- Adopted **DevOps** approach by implementing a **CI/CD** pipeline with Git, enabling automatic deployments to GitHub.
- Created interactive elements using custom **React** components to demonstrate creative **frontend** development skills.

### Image Filter Classifier | Python, Pytorch, Google Colab, AI

Sep. 2024 – Dec. 2024

- Constructed an **AlexNet** inspired **CNN** to classify image filters (e.g., grayscale, sepia) with over 95% accuracy.
- Applied data augmentation and **transfer learning** on a custom dataset to improve generalization across filter types.
- Benchmarked performance against a baseline **SVM** using hand-crafted features (e.g., RGB histograms, LBP).

## Leadership / Extracurriculars

### IEEE University of Toronto Chapter

Multimedia Director

June 2024 – Current

Toronto, Ontario, Canada

- Composed social media posts and uniform designs using **Figma**, collaborating with the web team on **UX/UI** design.
- Organized **300+** students at hackathons, mentoring technical skills, hosting workshops, and overseeing participants.
- Promoted events through social media posts and short-form content, inspiring over **5000+** students and **500k+** reach.

### aUToronto (Autodrive Challenge University of Toronto)

Sep 2025 – Current

Electrical Team

Toronto, Ontario, Canada

- Debugged PDSM **PCBs** on **Altium** that communicate signals from cameras, LiDARs and radar of autonomous vehicle.
- Validated vehicle power-distribution networks using **Redarc** systems to ensure reliable driving performance.
- Collaborated with the Systems team to flash controllers, verify communication interfaces, and ensure stable operation.

## Activities & Interests

**Activities:** NewHacks/HTN Hackathon Winner/Organizer, Uber/Fantuan Driver, F!rosh, Vancouver Care Package

**Interests:** DJ | Photography | Electric Guitar | Amateur Radio | Hip Hop Dance | Acappella | Culinarian | Ice Skating