David Xu

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EDUCATION

University of Toronto   **Toronto, Ontario**
Bachelor of Applied Science in Electrical Engineering   Expected Graduation 2026
- **GPA and Honours:** 3.7/4.0; Dean's Honour List; PEY Coop
- **Relevant Coursework:** Hardware Design, Circuit Analysis, Digital Systems, Electronics, Electrical Fundamentals, Signals and Systems, Computer Architecture, Dynamics, Mechanics, Material Science

PROJECTS

Single Sideband Demodulator   **Toronto, Ontario**
Altium, NI Mutisim, Frequency Analysis, Schematics   January 2024 - May 2024
- Engineered with **Altium** a SSB Demodulator **PCB** CAD for a flexible transceiver radio in a team of two
- Assembled soldering a 200dB Audio Amplification with **bass** boost, sideband selector, and volume control
- Validated a 20dB sideband rejection ratio across 100-6kHz, successfully integrated system among 52 teams

NIOS RobotArm   **Toronto, Ontario**
C, SoC, Assembly, NIOS II, 3D Print   April 2024 - May 2024
- Implemented a **3DoF** robotic arm system that included **embedded systems**, electrical and mechanical design
- Embedded control systems on **DE1-SoC** programmed in **C/Assembly** to operate robotic arm with joint limits
- Constructed 3D-printed parts and A4988 electric design; acquired recognition and $200 funds from professor

PianoTiles   **Toronto, Ontario**
FPGA, Verilog, Embedded Systems, Quartus   December 2023
- Co-designed with **Quartus** digital circuits on **FPGA** board to produce sound and render animation by inputs
- Implemented firmware in **Verilog**, a Finite State Machine to verify logic for the correct notes of a song
- Composed a user interface that interacted with **I/O** ports: a PS-2 keyboard, **VGA** Display, and audio core

WORK EXPERIENCE

Elite Education Institution   **Vancouver, British Columbia**
Intern   July 2023 - Current
- Tutored 50+ students in grades 3-12 in-person/virtually, covering SSAT, SAT, AP Calculus, and AP Physics
- Provided **IT** support by maintaining the Elite Elis System and enhanced eliteprep.ca's **UX** through **Figma**.

LEADERSHIP & EXTRACURRICULAR EXPERIENCE

Device for Experimental Course (Six Sigma)   **Toronto, Ontario**
Engineering Consultant   January 2023– April 2023
- Designed a new device that models the transfer equation $Y(x) = K + aX1 + bX2 + cX1*X2$ for Six Sigma
- Led a team of 6, ensuring effective coordination with the client, within the team, and the course ESP office
- Generated 60+ solutions and offered 3 optimal solutions to the client through the **engineering design** process
- Prototyped the device, employed by the client, achieving a precise test result transfer variance of 0.968

SKILLS, ACTIVITIES & INTERESTS

Languages: C, C++, Java, MATLAB, Python, Javascript, Typescript, HTML, CSS, Assembly, Verilog
Framework & Libraries: Node.js, React, React Native, MongoDB, Vite, Bootstrap
Technical Skills: Altium, NI Multisim, Quartus, Figma, Lightroom, Photoshop, Autocad
Certifications & Licences: IEEE Arduino/Altium Certificate, CSIA Instructor Level 1, IAR Certificates
Activities: New Hacks Hackathon Winner/Organizer, Uber Drive, F!rosh, Vancouver Care Package
Interests: Photography | DJ | Guitar | Radio | Ski | Hike | Sing | Travel | Cook | Dance | Jazz | Health Science