AKILEASH SARAVANAN

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EDUCATION

BSc in Electrical Engineering (Co-op) Sep 2025 – Apr 2030
University of Alberta *Edmonton, AB*

EXPERIENCE

Project Coordinator Co-op *May 2026 – Aug 2026*
Aecon Group Inc., BHP Jansen Site (Jansen, SK)
- Completed **1000+** drawing markups (piping, electrical, structural, civil) for PAU and non-PAU modules using **Bluebeam Revu**.
- Verified dimensions and instruments on site and built an **Excel** issue tracker for field coordinators to log and clear construction discrepancies.
- Reviewed and requested **TQs** and **RFIs** to update construction drawings, and supported QA/QC checksheets in **Hexagon SmartPlant**.

Electrical Team Member *Sept 2026 – Present*
Autonomous Robotic Vehicle Project (ARVP) (University of Alberta)
- Designing a drop-in 12V-to-7.4V **buck converter** to replace an out-of-stock module, comparing switching controllers and validating the circuit in **LTspice** for servo power on the AUV.
- Designed and routed a 4-layer **Altium PCB** around a **Teensy**, adding **CAN** communication, a Hall-effect kill-switch, and an active low-pass filter for noise rejection.

Swim Instructor *Jan 2024 – Apr 2026*
William Lutsky YMCA (Edmonton, AB)
- Instructed learners across various age groups in water safety and stroke refinement.
- Mentored new swim instructors through shadow teaching and feedback on lesson delivery.

TECHNICAL PROJECTS

SignBridge (ASL Translation Smart Glasses) Feb 2026
- Built wearable real-time ASL-to-speech glasses at HackED 2026 (48-hour team hackathon) with a 3D-printed frame, camera, **Raspberry Pi**, **MediaPipe** hand tracking, and a **TensorFlow** classifier.
- Designed the first-iteration frame for **3D printing** and trained the model on fingerspelled letters and full-word signs, normalizing hand coordinates for varying distances and camera angles and smoothing output for stable speech.

AkiPad V1 (Custom Macropad) Feb 2026 – Apr 2026
- Built a compact engineering/productivity macropad with 6 custom keys, dual rotary encoders, a 0.91" **OLED** display, and RGB **NeoPixel** lighting.
- Designed the **PCB** in **KiCad** and the enclosure in **Fusion 360**, then wrote **KMK** firmware and fabricated the board through Hack Club Blueprint.

CentreMass (Self-Balancing Robot) Sept 2026 – Present
- Developing a self-balancing robot on a **Raspberry Pi 5**, using **Python** to read an **MPU6050** IMU and drive an **L298N** motor driver, and working on **PID** control to stabilize it.
- Modeled the chassis in **Onshape** and designed the power system, using a **buck converter** to step the LiPo battery down to 12V for the motor driver.

Sylla Sync (Workload Automation) Sept 2026 – Present
- Developed a **Python** tool that extracts assignments and due dates from Canvas and syllabus PDFs across 6 courses and displays them in a single dashboard.
- Built an **LLM**-powered extractor to read syllabi with inconsistent formats and sync deadlines to **Google Calendar** and **Google Sheets**, as well as a daily digest to Discord.

SKILLS

Industrial / Tools: Bluebeam Revu, Aconex, Excel, Document Management, P&ID, Redline Markup, MS Office

Design & Embedded Systems: KiCad, Altium, LTspice, Fusion 360, Onshape, Raspberry Pi, LiPo power systems, motor control (H-bridge drivers), I^2C, CAN Bus, 3D Printing, Soldering

Software & ML: Python, PyTorch, OpenCV, Computer Vision, Google APIs, Git, GitHub

CERTIFICATIONS

Oracle Aconex Complete — Oracle (Specialist, Professional, and Associate) Aug 2026
CSTS 2020 — Alberta Construction Safety Association Apr 2026
AB-518 Pressure Piping Construction — ABSA Apr 2026
DELF B1 — République française May 2025