Akash Kothari

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EDUCATION

University of Waterloo — Waterloo, ON
Bachelor of Applied Science in Computer Engineering (Co-op)

EXPERIENCE

Software Engineering Intern — Jun. 2025 – Sep. 2025
Tripleview Technologies — *Mississauga, ON*
- Automated retrieval of Microsoft Teams call recordings using **Azure**, **Microsoft Graph**, and **C#**, reducing manual labour by **10+ hours per week** for customer support teams.
- Implemented webhook triggers, polling logic, and **AI-powered** summarization pipelines that streamlined transcript processing and improved response time.
- Integrated results into **Zendesk**, creating structured tickets with detailed summaries that cut agent writing time and reduced miscommunication.
- Owned the full development cycle including design, coding, deployment, and monitoring, delivering production-ready features now being expanded into broader internal tooling.

Volunteer Research Assistant — Jun. 2025 – Sep. 2025
WatIMake, University of Waterloo — *Waterloo, ON*
- Supported experiments in **PID control** systems using **Python** on a **Raspberry Pi** with motors and sensors.
- Contributed to the development of lab modules aimed at teaching control systems and robotics to third years.

Firmware Developer — Sep. 2025 – Present
Electrium Mobility Design Team — *Waterloo, ON*
- Contributing to firmware integration for an **electric mid-bike conversion kit**.
- Developing firmware for **VESC motor controller** integration for real-time motor control and diagnostics.
- Programming display interface for system monitoring, showing battery status, speed, and motor performance.

PROJECTS

NBA Game Predictor | *Python, Flask, React, XGBoost, Data Engineering* — 2025
- Engineered a machine learning pipeline using **XGBoost** with feature engineering, hyperparameter tuning, and model evaluation on 7+ seasons, achieving an accuracy of **64.8%**.
- Developed a **Flask** API giving daily predictions hooked to a **React** frontend with confidence visualizations.
- Built automated data scraping and cleaning using **pandas** to process historical and daily matchup statistics.

LockIn AI – Distraction/Habit Detection App | *Python, YOLO, OpenCV, Next.js* — Hackathon Project
- As a part of a team of four, within 36 hours we built a desktop productivity tool with **YOLO + OpenCV** for webcam inference and screen monitoring.
- Implemented a Python backend (**Flask + SocketIO**) with threaded workers for continuous detection and events.
- Created an **Electron** shell + Next.js UI for habit toggles, site blocking, and live monitoring feedback.

FingerPointer | *C++, MPU6050, ESP32, Circuit Design* — Apr. 2025 – Jun. 2025
- Built a wearable pointer device with motion tracking and gesture recognition using an ESP32 + MPU6050.
- Developed firmware in Arduino C++ and designed custom power circuitry for portability.
- Explored potential accessibility applications for alternative input methods.

Self-Balancing Robot | *PID Control, Arduino, Hardware Prototyping* — Sep. 2024 – Jan. 2025
- Built a two-wheel robot using an MPU6050 gyroscope + accelerometer for real-time balance.
- Implemented and tuned a PID controller in Arduino to stabilize motion and minimize oscillations.
- Designed and assembled a custom polycarbonate frame for structural stability.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, C#, JavaScript (ES6+), SQL
Frameworks & Platforms: Flask, React, Next.js, Electron, Node.js, Azure, Microsoft Graph API
Machine Learning: Scikit-learn, Pytorch, XGBoost, pandas, data preprocessing, model tuning
Computer Vision: OpenCV, YOLO
Developer Tools: Git, VS Code, Postman
Hardware & Electronics: Arduino, Raspberry Pi, ESP32, IMUs, PID Control Systems