# Aavash Bhattarai

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## Education

**Pulchowk Campus, IOE, TU** — Pulchowk, Lalitpur
*Bachelors in Electronics, Communication and Information Engineering* — *June 2021 – Present*

**Uniglobe College** — Kamaladi, Kathmandu
*10 + 2* — *June 2018 – Nov. 2020*

**Key Courses** — Logpoint, Lalitpur
*Security Operations Fundamentals* — *May 2024 - Sept. 2024*
*Cyber Risk Management and Advanced Operations* — *Nov. 2025 - Present*

## Certifications

**Certified in Cybersecurity** — Jan. 2025
*ISC2*

**Career Essentials in Cybersecurity** — Nov. 2024
*Microsoft and LinkedIn*

## Experience

**Mentor** — July 2024
*Hardware Fellowship* — *LOCUS & Robotics Club*

- Guided 30+ students in basic electronics, microcontroller programming, and circuitry during an 8-day fellowship
- Provided hands-on training and support to enhance participants' understanding of hardware systems.

**Instructor** — Nov. 2024
*Internet Awareness Campaign* — *WIA x CIT*

- Promoted responsible internet usage and cybersecurity awareness to over 300 students in Nepal's far-west region.
- Conducted interactive sessions and provided career guidance, fostering digital literacy and encouraging ethical technology use.

**Sub Co-ordinator** — January 2025
*RoboPop* — *LOCUS 2025*

- Coordinated event logistics, including arena setup, match scheduling, and team management, ensuring seamless execution of battles among 10 teams.
- Collaborated with teams to organize and manage the event, quickly resolving scheduling conflicts and operational challenges.

## Projects

**Intelligent Greenhouse Climate Control and Monitoring Application** | *React, AWS S3, ESP32* — Ongoing

- Collaborated with a team to develop a web application that provides real-time data on greenhouse parameters.
- Designed and implemented administrative controls and security measures to manage and safeguard the app.
- Currently setting up hardware to create and optimize microclimate zones for plant growth within the greenhouse.

**Tenzies on web** | *React, CSS* — Completed *Oct. 2024*

- Developed a web-based Tenzies dice game with interactive gameplay.
- Implemented a scoring system and high score tracking using localStorage for persistent data storage.

**Visualization of Artificial Bee Colony Algorithm** | *Python, Matplotlib* — Completed *Aug. 2024*

- Developed a visualizer for the Artificial Bee Colony (ABC) algorithm to solve the Traveling Salesman Problem.
- Collaborated with a teammate to implement both open-loop and closed-loop configurations, optimizing route selection and efficiency.

**Home Assistant in local language** | *Python, OpenAI API* — Completed *Nov. 2023*

- Developed a Home Automation Assistant capable of understanding and responding to Nepali commands.

- Designed and trained a custom wakeword detection model using a self-curated dataset
- Integrated OpenAI's NLP model for command recognition to enhance functionality after dataset limitations were identified.
- Implemented predefined automation functions triggered by wakeword activation.

**Premier League Clone** | *React, PostgreSQL, Node.js* Completed *July 2023*

- Constructed a fully functional web app for tracking match updates, team stats, and player details.
- Worked with a team to integrate frontend and backend in the Premier League Clone app.

**OpenGL Infinite Runner** | *OpenGL, GLFW* Completed *March 2023*

- Developed an infinite runner game using OpenGL and GLFW.
- Implemented random obstacle generation and object collision detection mechanics to enhance gameplay experience.

## Technical Skills

**Languages**: Python, C/C++, SQL, JavaScript, HTML/CSS
**Frameworks/Libraries**: React, Node.js, Redux Tailwind CSS, Bootstrap
**Tools**: Framer Motion, Axios, Highcharts