

Aavash Bhattarai

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EDUCATION

Pulchowk Campus, IOE, TU

Bachelors in Electronics, Communication and Information Engineering

Pulchowk, Lalitpur

June 2021 – Present

Uniglobe College

10 + 2

Kamaladi, Kathmandu

June 2018 – Nov. 2020

Key Courses

Security Operations Fundamentals

Logpoint, Lalitpur

May 2024 - Sept. 2024

CERTIFICATIONS

Certified in Cybersecurity

ISC2

Nov. 2024

Career Essentials in Cybersecurity

Microsoft and LinkedIn

Nov. 2024

EXPERIENCE

Mentor

Hardware Fellowship

July 2024

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

Internet Awareness Campaign

Nov. 2024

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.

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