



Portfolio

# Deeghayu Arandara

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## SUMMARY

I'm a **Computer Science student** at the University of Westminster dedicated to engineering real-world solutions by integrating modern AI tools into functional products. A **collaborative team player** and leader focused on translating complex technical challenges into market-ready digital solutions. Driven by a passion for **entrepreneurship** and **marketing**, which informs a strong creative background in professional videography and video editing.

## TECHNICAL SKILLS

**Programming & Web:** TypeScript, JavaScript, Python, Java, SQL, Next.js, React, FastAPI, Node.js  
**Developer Tools & IDEs:** VS Code, IntelliJ IDEA, Antigravity IDE  
**AI Models & Libraries:** OpenCV, TinyLlama  
**AI Chats :** Gemini, ChatGPT, Claude, Copilot, Midjourney, Meta Ai  
**IoT & Hardware:** Raspberry Pi  
**Creative Suite & Digital Media:** Adobe Premiere Pro, After Effects, Photoshop, Illustrator, Capcut  
**Infrastructure & Design:** Git, Figma, Vercel, Supabase, Backblaze B2, Linux (Kiosk Environment)

## PROJECTS

### ADORIX (IN PROGRESS) | *OpenCV, FastAPI, Python, TinyLlama, Raspberry Pi, Supabase, React*

- **Targeted Advertising Engine:** Engineered a computer vision pipeline using OpenCV (SSD) that detects users in real-time, analyzing **age and gender** to dynamically serve high-relevancy advertisements via a FastAPI backend.
- **Real-time Engagement:** Developed a proactive interaction system that initiates engagement based on proximity and gaze tracking, significantly increasing ad retention and user interaction rates through **Edge-TTS** and **TinyLlama-1.1B**.
- **Analytics Dashboard:** Architected a live data stream to a **Supabase** dashboard, tracking viewer attention span, watch time, and demographics to provide remote clients with granular marketing metrics.
- **Cloud-Edge Sync:** Implemented a robust deployment system using **Backblaze B2**, allowing automated video ad distribution from a central web portal directly to Raspberry Pi edge devices.
- **Team Leader:** Spearheading the Software Development Group Project (SDGP) lifecycle, managing team workflows and system architecture to ensure seamless integration between hardware and cloud services.

### IT WADURA (ACTIVE) | *Web Development, Digital Marketing, System Design*

- Digital solutions agency providing **full-stack software development** and digital marketing.
- Managing the delivery of custom system solutions and high-performance web applications to enhance business digital presence and operational efficiency.

## TECHNICAL MINI-PROJECTS

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### AI CAPTION GENERATOR | *Next.js, AI API*

Feb. 2026

[caption-generator.vercel.app](https://caption-generator.vercel.app)

- Developed a dynamic web tool with AI APIs to generate context-aware captions, streamlining the workflow for digital content creators.

### CONTROL SYSTEM SIMULATION | *MATLAB, Simulink, Control Theory*

Dec. 2025 – Jan. 2026

[robotics-motor-control-cw](#)

- Modeled and simulated a robotics control system featuring a linearized physical plant and a finely tuned PID controller for precise reference signal tracking.

### PLANT DISEASE DETECTION SYSTEM | *MATLAB, Image Processing*

Dec. 2025 – Jan. 2026

[project-c-leaf-analysis](#)

- Built an automated application using MATLAB App Designer to detect leaf diseases and calculate infection severity through digital image processing.

## EDUCATION & CERTIFICATIONS

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### BSc (Hons) in Computer Science (UG)

Sep. 2024 – Present

*Informatics Institute of Technology (IIT), Sri Lanka | University of Westminster, London*

### G.C.E. Ordinary Level

2020

*Bandaranayake College, Gampaha | 9A Passes*

### G.C.E. Advanced Level - Mathematics Stream

2023

*Bandaranayake College, Gampaha | 3C Passes*

### Diploma in English (DIE)

2024

*Oxford College of Business, Sri Lanka*

## LEADERSHIP & VOLUNTEERING

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### Vice President [Red Cross Society]

Jan. 2021 – Dec. 2023

*Bandaranayake College, Gampaha*

### Co-Organizer [Science Society]

Jan. 2022 – Dec. 2023

*Bandaranayake College, Gampaha*

## WORK EXPERIENCE

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### Video Editor & Post Production Assistant (Freelance)

Jan. 2025 – Feb. 2026

*Excel Group | Broadcast Media Production and Distribution Sri Lanka*

### Marketing Assistant (Freelance)

Jul. 2025 – Feb. 2026

*Institute of Performing Arts of Modeling (IPAM) | Higher Education Sri Lanka*

## REFERENCES

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### Sanjula Samarasekara

*Lecturer, Computing Department*

*Informatics Institute of Technology*

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### Vishmi Embuldeniya

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