

Daham Dissanayake

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SUMMARY

Second-year Undergraduate Student at the University of Westminster with a strong foundation in Computer Science and a specialization in IoT-driven Machine Learning. Experienced in full-stack web development with Next.js and embedded systems engineering. Proven ability to lead technical teams in university projects and a commitment to creating clean, user-centric digital experiences. **Comprehensive project documentations are available at daham.serenedge.com.**

TECHNICAL SKILLS

AI & Machine Learning : TensorFlow, YOLOv11, OpenCV, Edge Impulse, Scikit-learn, LangChain

Full-Stack Frameworks : Next.js, NestJS, FastAPI, React.js, Vite.js, Tailwind CSS

Programming Languages : Python, Java, C++, TypeScript, JavaScript, SQL, HTML5/CSS3

IoT & Embedded Systems : ESP32, Raspberry Pi, Arduino, HAP Protocol, Magicbit

Tools & Infrastructure : Git, Docker, Vercel, PostgreSQL, MongoDB, CustomTkinter

FEATURED PROJECTS

SoterCare | IoT & ML Elderly Care | 2025 – Ongoing

<https://sotercare.com>

- **Second Year University Project:** An innovative monitoring system designed for proactive safety; predicts falls and detects urinary incontinence in real-time.
- Integrates wearable sensor nodes with a dedicated edge gateway for automated emergency alerts.
- **Tech:** IoT, Raspberry Pi, React Native, C++, NestJS, Python, PostgreSQL, Edge Impulse



ReImage Agent | AI Community Avatars | 2026

<https://github.com/DahamDissanayake/ReImage-Agent>

- AI-powered constant avatars designed for communities, providing a consistent visual identity through generative models.
- Engineered a high-performance backend to handle generative AI workloads with a responsive Next.js frontend.
- **Tech:** Next.js, FastAPI, Python, Gemini (Nano Banana)



VisionSlide | Touchless Controller | 2026

<https://github.com/DahamDissanayake/vision-slide>

- Python-based hands-free presentation controller using OpenCV and PyAutoGUI to transform a webcam into a gesture interface.
- Tracks vertical hand movements to simulate 'Up/Down' arrow keys with real-time feedback via CustomTkinter.
- **Tech:** Python, OpenCV, PyAutoGUI, CustomTkinter



VibeCheck | Visual Debugging Assistant | 2025

<https://github.com/DahamDissanayake/web-design-prompt-extension>

- Chrome Extension (Manifest V3) designed to bridge visual layout bug identification and fixation.
- Allows users to overlay precision grids and mark 'friction points,' automatically synthesizing structured AI prompts.
- Successfully deployed and currently available for download on the Chrome Web Store.
- **Tech:** JavaScript, HTML5, CSS3, Manifest V3



TECHNICAL MINI-PROJECTS

Imposter Game | Custom Feature-Rich Alternative | 2025

🔗 <https://github.com/DahamDissanayake/Imposter-Game-But-Customized-V2>

- Built using React/Vite as a free alternative to paywalled apps; focuses on accessibility and seamless Vercel deployment.

Flood-Watch [NullProduct] | IoT Flood Warning | 2025

🔗 <https://github.com/DahamDissanayake/NullProduct-VERTEX25>

- Winning runners-up at Vertex'25; offline-capable system using ESP32 Magicbit and Ultrasonic sensors for flash flood detection.

Keyboard Macro Writer | Automation Tool | 2024

🔗 <https://github.com/DahamDissanayake/keyboard-macro-writer>

- Keystroke simulator using pynput and tkinter that mimics human typing patterns via randomized delays for automated data entry.

Tripwire-YOLO | Security Solution | 2025

🔗 <https://github.com/DahamDissanayake/tripwire-YOLO>

- Intelligent monitoring using YOLOv8 to trigger instant snapshots when a virtual line is crossed, optimized with threading.

Apple HomeKit Automation | Native IoT Switch | 2024

🔗 <https://github.com/DahamDissanayake/Apple-homekit-esp8266>

- Native HomeKit-integrated IoT switch enabling Siri voice control via HAP protocol on ESP8266 without a bridge/gateway.

EDUCATION & CERTIFICATIONS

BSc (Hons) in Computer Science (UG)

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

2025 – Ongoing

G.C.E. Advanced Level - Physical Science

Bandaranayake College, Gampaha | Subjects: Physics, Combined Mathematics, ICT

Completed: Dec 2024

Professional Certificate in Machine Learning

Informatics Institute of Technology Professional Development Unit (PDU)

Completed: 2025

Professional Certificate in Marketing

Sri Lanka Institute of Marketing (SLIM)

Completed: 2023

LEADERSHIP & VOLUNTEERING

Interact Club - Bandaranayake College

Executive Committee Member

2023 – 2024

Sri Lanka

IEEE CIS IIT (Prestige)

Event Volunteer

2025

Colombo

REFERENCES

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