DEEGHAYU SUWAHAS ADHIKARI

R&D Engineer @ AltaVision Solar

deeghayu.netlify.app
Deeghayuadhikari01@gmail.com
+94 70 220 7070
github.com/DeegayuA
Kadawatha, Sri Lanka
in/deeghayu

SUMMARY

A graduate student in IT with expertise in electronics, AI, IoT, and web development. Experienced in developing AI-powered solutions and embedded systems for real-world applications. Passionate about creating user-centric, scalable technologies to enhance accessibility. Skilled in project management, machine learning, algorithm optimization, and cross-functional collaboration to drive innovative solutions.

TECHNICAL SKILLS

Languages:.
C++, Python, JavaScript, TypeScript

Frameworks/Tools:
React, Next.js, Radix UI, Tailwind CSS, Git, GitHub, VSCode, PyCharm, WebSockets, Vercel, Google Gemini

Specialties:.
Web Development, AI and Machine Learning, IoT Systems, Embedded Systems

EDUCATION

2025.05 - 2026 **Master in Data Science and AI (Reading)** — **Faculty of Engineering, University of Moratuwa**

2024.07 - 2025.08 **Master in Information Technology (Reading)** — **Faculty of Science, University of Kelaniya**

2021.07 - 2024.04 **BSc in Physical Science (CS, Electronics and Physics)** — **Faculty of Science, University of Kelaniya**
GPA 3.31/4.00

06/2025 **AWS Academy Graduate - Data Engineering** — **Amazon Web Services (AWS)**

06/2025 **Fundamentals of Accelerated Data Science** — **NVIDIA**

06/2023 **Certificate - Responsive Web Design** — **www.freecodecamp.org**

11/2023 **Certificate - Machine Learning with Python** — **www.freecodecamp.org**

10/2024 **Certificate - JavaScript Algorithms and Data Structures (Beta)** — **www.freecodecamp.org**

EXPERIENCE

03.2025 - **(Current)** **Research and Development Engineer (IoT)** — **AltaVision, Homagama, Sri Lanka**
Key Responsibilities:
- Developed IoT prototypes by integrating sensors, microcontrollers, and communication modules with a focus on reliability and low power use.
- Worked with cross-functional teams, field testing, and system optimization for deployment.

05.2024 - 03.2025 **Voluntary Research Assistant, Department of Physics and Electronics** — **University of Kelaniya, Sri Lanka**
Key Contributions:
- Developed machine learning algorithms for real-time data analysis and decision-making.
- Conducted IoT projects, integrating sensor technologies to enhance system performance.
- Conducted research in AI, IoT, and data analytics for faculty projects and publications.

07. 2024 - 03. 2025 **Graduate Teaching Assistant, Department of Physics and Electronics** — **University of Kelaniya, Sri Lanka**
Key Contributions:
- Assisted in courses such as embedded systems, signal processing, IoT, and computer architecture.
- Mentored students through hands-on projects, offering technical support and guidance.
- Developed content and lab exercises to promote active learning.

2021 - 2023 **Freelance Web Developer** — **Remote, Freelancing**
Key Contributions:
- Developed responsive, user-centric web-sites/apps with basic HTML, CSS, JS to React and Next.js.
- Ensured WCAG 2.2 compliance, enhancing accessibility for diverse users.
- Collaborated with clients to deliver scalable, secure, high-performance solutions.
- Optimized app performance with techniques such as lazy loading, code splitting, and SEO.

PROJECTS

2024 **(Ongoing)** **LifeSight: Accessibility Tool for Visually Impaired Users** **Master in IT Project**
- An AI-powered tool designed to assist visually impaired individuals with daily tasks.
- Includes real-time object recognition using computer vision and text-to-speech conversion.
- Focused on accessibility features and personalized user experience.
- **GitHub:** https://github.com/DeegayuA/lifesight2.

2024 **Queue Management System for Healthcare** **Project by EDIC, UOK**
- Designed a customizable queue system to enhance patient flow at healthcare institutions.
- Implemented an offline, scalable, low-battery system with cloud synchronization.
- **GitHub:** https://github.com/DeegayuA/idh.

2023 - 2024 **GreenWing: Quad-Copter based Intelligent Smart Irrigation System** **Final Year Electronics Research Project**
- Developed a smart irrigation system using AI and sensor technologies.
- Integrated real-time weather data, machine learning algorithms, and IoT connectivity.
- **GitHub:** https://github.com/DeegayuA/GreenWing.

2023 **AI-based Assignment-Solving Android App: SnapLearn** **Android Project**
- Developed an Android app using Gemini AI to provide comprehensive assignment-solving assistance.
- Utilized Kotlin, Jetpack Compose, and integrated real-time OCR using ML Kit.
- **GitHub:** https://github.com/DeegayuA/SnapLearn.

2022 - 2023 **Deep Learning Mini Projects** **Learning Projects**
- Implemented a series of deep learning models including:
- **Sinhala Character Recognition**: Trained RNN-based image classification model.
- **Stock Price Prediction**: Built an LSTM-based model for predicting stock prices.
- **English to Sinhala Translation**: Developed a translation model using transformers.
- **Car Price Prediction**: Built a machine learning model using Random Forest for predicting car prices.

ACHIEVEMENTS AND AWARDS

02/2024 **Participation - UWU ROBOT BATTLES 2.0: Death Race (2024)** **Uva Wellassa University, Sri Lanka**
Competed in UWU Robot Battles 2.0: Death Race, showcasing robotics skills and teamwork.

11/2023 **Second Runner Up - Sky of Icarus Custom-Drone competition - 2023** **IESL Young Member Section, South Eastern University, Sri Lanka**
2nd runner-up in Sky of Icarus 2023 drone competition, showcasing drone skills and teamwork.

04/2022 **Best of the Class | Final Year | School** **Gurukula National College, Kelaniya**
Achieved Class Proficiency in the final year of high school, reflecting academic excellence.

11/2018 **Merit Certification | Open Day Robotic Competition** **NERDC, Sri Lanka**
Achieved a Merit Certification at the District Level Open Day Robotic Competition.

06/2018 **Participation | SLIIT GAMEFEST 2K18** **SLIIT**
Showcased involvement in SLIIT GAMEFEST 2K18, a game development competition.

LEADERSHIP AND TEAMWORK

2021 - 2024 **Steam - VidE** **Media Unit, FOS, UOK**
Event Coordinator, VidE - 21/22,
Head of Photography 20/21,
Member 19/20

2022 - 2023 **Inventors Club** **University of Kelaniya**
Vice President 21/22,
Junior Treasurer 20/21

2022 - 2023 **E-Waste Project** **Electronic Development and Innovation Center | University of Kelaniya**
Junior Electronics Lead 20/21,
Electronics Lead 21/22

2021 - 2022 **Astronomy and Space Science Association** **University of Kelaniya**
Co-Coordinator 20/21,
Main Web Developer 19/20 and 20/21,
Committee Member 19/20

2022 **Statistic and Computer Science Students' Association** **University of Kelaniya**
Editor 20/21

PUBLICATIONS

Abstract MO-37 **Autonomous Quadcopter-based Intelligent Irrigation System for Enhancing Crop Care**
International Conference on Applied and Pure Sciences, University of Kelaniya, Sri Lanka. 2024
Vimansa W. A. H.*, **Adhikari A. M. N. D. S.**, Rathnayaka R. M. P. B., Dilshan P. K. S. I., Attanayake A. M. V. A., Randeniarachchi R. A. N. D., Hemal S. B. N. H., Piyumal P. L. A. K., Kumarage W. G. C.
- Developed an autonomous quadcopter system for smart irrigation, leveraging real-time monitoring for improved water usage and crop growth.
Drone Programming, ESP32, ML, Battery Management, Solar Power, Data Fusion, Weather API, YOLOv8, Intelligent Algorithms, web app.

Abstract MP-14 **Wireless Pager System for Enhancing Emergency Communication in Hospital Environment**
International Conference on Applied and Pure Sciences, University of Kelaniya, Sri Lanka. 2024
Gunarathna T. G. L.*, **Adhikari A. M. N. D. S.**, Bandara K. D. Y., Gunawardana K. D. B. H., Seneviratne J. A., Perera M. H. M. T. S.
- Implemented a LoRa pager system for efficient emergency communication, enhancing responsiveness in hospital settings.
LoRa, ESP32, Raspberry Pi, 433 MHz modules, local/cloud storage.

Abstract SO-09 **A Cost-effective and Adaptable Queue Management System to Increase Efficiency in Patient Queue Management**
International Conference on Applied and Pure Sciences, University of Kelaniya, Sri Lanka. 2024
Adhikari A. M. N. D. S., Gunarathna T. G. L., Bandara K. D. Y., Gunawardana K. D. B. H., Seneviratne J. A., Perera M. H. M. T. S.
- Designed a QR-based, offline queue system to optimize patient flow at the National Institute of Infectious Diseases, Sri Lanka.
Queue Management, IoT, Data Encryption, QR, Cloud, Accessibility, Low Battery Indicators, Load Balancing, Power Efficiency.

LANGUAGES

Sinhala - Native, **English** - Intermediate, **German** - Beginner.

INTERESTS

- **Technology**: Web Development, AI/ML, IoT, Edge Computing
- **Social Impact**: Accessibility Innovation, Design for All, Inclusivity in Tech, Volunteering at University
- **Sports**: Chess, E-Sports
- **Research**: IoT, Electronic Designs, Computer Vision, Natural Language Processing
- **Creative Hobbies**: Cinematography, DIY Electronics Projects, Arduino Raspberry Pi
- **Personal Growth**: Reading,

REFERENCE

Professor A. L. A. K. Ranaweera
Professor,
Department of Physics and Electronics,
University of Kelaniya.
arunaran@kln.ac.lk
+94 (0)77 7 179 201

Dr. J. A. Seneviratne
Senior Lecturer (Grade II),
Department of Physics and Electronics,
University of Kelaniya.
jehans@kln.ac.lk
+94 (0)71 822 6117

Deeghayu Suwahas Adhikari

04/20/2025