DEEGHAYU SUWAHAS ADHIKARI

Teaching Assistant | Voluntary Research Assistant @ UOK

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SUMMARY

A recent graduate and electronics teaching assistant with a strong foundation in software engineering, IoT, and embedded systems. With hands-on experience in real-time communication and autonomous systems, currently pursuing a Master's in IT. Proven expertise in developing resource-efficient IoT-based solutions, and keen to apply machine learning and computer vision skills to autonomous drone research. Skilled in managing projects, optimizing algorithms, and leading teams toward innovative solutions.

TECHNICAL SKILLS

Languages: .
C++, Python, JavaScript, HTML, CSS

Frameworks/Tools:
React, Git, GitHub, VSCode, PyCharm, WebSockets,

Specialties: .
Web Development, IoT Systems, Embedded Systems, Real-Time Systems, QR Technology, Algorithm Optimization

EDUCATION

Ongoing	**Master in Infomation Technology (Reading)**	**University of Kelaniya**
2021 - 2024	**BSc in Physical Science (Computer Studies, Electronics and Physics)** With a 2nd class upper division pass	**University of Kelaniya**
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**

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.
HTML, CSS, JavaScript, PHP, SQLite3, AES-256 encryption, ESP32, mDNS, Random Forest.

PROJECTS

2023 - 2024 | **Quadcopter Based Intelligent Irrigation System | Electronics Research Project** | http://green-wing.scienceontheweb.net
Merging electronics and agriculture, utilizing quadcopter technology with intelligent sensors for autonomous irrigation.

2024 | **AI-based Assignment-Solving Android App** | https://github.com/DeegayuA/SnapLearn
Developing an Android application integrating Gemini AI to provide comprehensive assignment-solving assistance. Utilizing Kotlin and Jetpack Compose, Real-time OCR using ML kit.

2024 | **Deep Learning Mini Projects** | https://github.com/DeegayuA
A series of mini deep learning projects:

1. Sinhala character recognition deep learning model training image classification using RNN.
   (**https://github.com/DeegayuA/Deep-Learning-Mini-Project-01**)

2. Stock Price Prediction using LSTM Recurrent Neural Networks.
   (**https://github.com/DeegayuA/Deep-Learning-Mini-Project-02**)

3. English to Sinhala translation model using transformers.
   (**https://github.com/DeegayuA/Deep-Learning-Mini-Project-03**)

2021 | **Portfolio Website** | https://deeghayu.netlify.app
Dynamic portfolio website showcasing skills and projects built using HTML, CSS, and JavaScript only.

ACHIEVEMENTS AND AWARDS

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

11/2023 | **Second Runner Up - Sky of Icarus Custom-Drone competition - 2023** | IESL Young Member Section, South Eastern University, Sri Lanka
Achieved second runner-up in the Sky of Icarus 2023 drone competition, demonstrating expertise in drone technology and teamwork.

04/2022 | **Best of the Class | Final Year | School** | Gurukula National College, Kelaniya
Attained Class Proficiency in final year of high school, underscoring commitment to 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 - 2023 | **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

LANGUAGES

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

REFERENCE

Professor A. L. A. K. Ranaweera
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University of Kelaniya.
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Deeghayu Suwahas Adhikari

11/11/2024