Sanduni Ubayasiri

Computer Engineering Undergraduate student
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Profile

A highly motivated individual with a strong passion for Algorithmic Problem Solving, Machine Learning and Computer Vision. Eager to leverage skills and knowledge to provide innovative solutions to real-world challenges.

Education

University of Peradeniya | *BSc.Eng(Hons.) in Computer Engineering* Mar. 2021 – Present
Current GPA 3.95/4.00

Mahamaya Girls College, Kandy | *G.C.E. Advanced Level Examination* Jan. 2006 – Aug. 2019
Z-Score 2.7781 *District Rank: 3/1189 , National Rank: 49/19508*

Experience

Casual Instructor
Department of Computer Engineering, University of Peradeniya

- GP 106 Computing Jan. 2023 – Jun. 2023
  Supervised 4hr long weekly lab sessions based on Python Programming, prepared lab sheets, quizzes and assisted in designing a project based on Python language and Arduino MCU
- CO 222 Programming Methodology Oct. 2023 – Jan. 2024
  Supervised 2hr long weekly lab sessions based on C programming, prepared lab sheets and quizzes

Projects

Head Impact Monitoring System for Athletes (Impax) | *Group* | | Nov. 2023 – Jan. 2024

- Developed a comprehensive head impact monitoring system for athletes in contact and non-contact sports which consists of wearable devices, a middleware and desktop application for monitoring
- **Contribution:** Developed the middleware and communication system(within LAN) between devices with MQTT
- Technologies: *Electron JS, Python, Node JS, MongoDB, RaspberryPi, Arduino, MQTT*

BitCoin Heist Ransomware Identification | *Group* Mar. 2024 – Present

- Developing a machine learning model to predict transactions related to ransomware payment
- This system can assess the risk associated with specific addresses, entities, or transaction patterns within the Bitcoin network
- Technologies: *Python, TensorFlow*

Color Analysis Tool for Plant Leaves (LeafQuantifier) | *Group* | | Aug. 2023 – Nov. 2023

- Developed a mobile application with a cloud backend that utilizes image processing techniques to quantify the color distribution of leaves by analyzing information extracted from captured leaf images
- **Contribution:** Implemented image processing techniques to segment the leaves and produce the histogram of the plant leaves
- Technologies: *Python, OpenCV, Pytorch, FastAPI, Flutter*

Obstacle Bot for Pera Swarm Robotic Project | *Group* Feb. 2024 – Present

- Developing automated obstacle robots for the swarm robotics arena which can move to desired positions and act as static or dynamic obstacles
- Updating the firmware of the obstacle bot with collision avoidance algorithms and integrating the obstacle bot with the existing visualizer
- Technologies: *Python, Java, Arduino, MQTT*

Export-Quality Mango Fruit Identification System | *Group* Mar. 2024 – Present

- Developing a system to identify defective and non-defective mango fruits using traditional image processing techniques
- Technologies: *Python, OpenCV*

Database of Cricket Statistics(CricLive) | *Group* | | Mar. 2023 – Jun. 2023

- Developed a cricket data management system for in-depth analysis of player performance, team performance, and match outcomes
- **Contribution:** Designed the relational database and complex queries to store, manage, and retrieve information about cricket matches, players, and statistics
- Technologies: *Node.js, Express.js, React.js, MySQL, WebSocket*

Technical Skills

Languages: Python, C, Java, Verilog HDL, SQL , JavaScript, HTML/CSS
Frameworks: React.js, Node.js, FastAPI
Developer Tools: Git, Google Cloud Platform, VS Code, PyCharm, IntelliJ
Libraries: Pytorch, TensorFlow, OpenCV, NumPy, Matplotlib, pandas

Achievements

Mrs. Nimala Peiris Award 2022 Jul. 2023
Award for the Best Performance in General Program in Engineering

SLIOT Challenge 2023 | *Annual IoT Competition* Mar. 2024
1st runners-up in the University category (Out of 100+ teams)

MoraXtream 8.0 | *12 hour algorithmic programming competition* Nov. 2023
National Rank - 4 (Out of 450+ participants)

IEEEXtreme 17.0 | *24 hour algorithmic programming competition* Nov. 2023
Global rank - 374 (Out of 16500+ participants)

ACES Coders 10.0 | *12 hour algorithmic programming competition* Oct. 2023
National Rank - 12 (Out of 350+ participants)

Certificates

Supervised Machine Learning: Regression and Classification Mar. 2024
Stanford University and DeepLearning.AI(Coursera)

Game Theory Mar. 2024
Stanford University(Coursera)

Extra Curricular Activities

Editor in IEEE WIE SB Affinity Group 2024- Present
Committee Member in Association of Computer Engineering Students 2023 - 2024
Design team Member in IEEE WIE SB Affinity Group 2023 - 2024
Volunteer in IEEE RAS Student Chapter 2021 – 2022

References

Prof. Roshan G. Ragel |*roshanr@eng.pdn.ac.lk*
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Department of Computer Engineering,
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University of Peradeniya,
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Dr. Isuru Nawinne |*isurunawinne@eng.pdn.ac.lk*
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