

Chandula Adhikari

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Profile

Driven by a passion for problem-solving, I always welcome tough challenges that push me to find innovative solutions. I truly believe the potential of technology to create positive change in countless aspects of our lives and eager to contribute to this progress. My interests are broad but interconnected, spanning from **machine learning** and **computer vision** to **explainable AI**, **computer architecture**, and **embedded systems**.

Education

University of Peradeniya

BSc.Eng(Hons.) in Computer Engineering

Mar. 2021 - Present

Current GPA: **3.85/4.0**

Dharmaraja College, Kandy

G.C.E. Advanced Level Examination - 467 from 19500+ participants nationwide

Jan. 2006 - Dec. 2019

Z-Score: **2.2069**

Experience

Undergraduate Teaching Assistant | Department of Computer Engineering, University of Peradeniya

CO221 Digital Design

Oct. 2023 – Jan. 2024

CO224 Computer Architecture

Feb. 2024 – Present

- Supervising 3-hour weekly lab sessions covering Arm Assembly language and Verilog

Developer/ Maintainer | [cepdnaclk](https://github.com/cepdnaclk), GitHub Organization

Oct. 2023 – Present

Serve as an administrator, overseeing error resolution and repository management within the github organization of Department of Computer Engineering

Selected Projects

BeeZee: Smart Beehive Monitoring System | Group | 🌐 | 🌐

Nov. 2023 - Present

- An innovative system to monitor bee colonies and detect early signs of abscondment. - A collaborative research project with the Faculty of Agriculture, University of Peradeniya
- The initial step involves creating a cloud-connected data collection box with integrated sensors (humidity, temperature, CO2, weight) and a camera, visualized on a user-friendly dashboard.
- Currently working on gathered camera footage of hive entrance to identify pollen-carrying bees.
- Contribution:
 - * Designed the data collection box and Assembled the circuit components
 - * Calibrated all sensors except the camera
 - * Developed the front-End of the dashboard
 - * Training **yolov8** model to detect bees and checking possibility of using strongSORT to track them
- **Technologies:** Raspberry Pi, AWS(S3, IoT Core, Lambda), Node.js, MongoDB, yolov8.

Obstacle Robot Swarm for Swarm Robotic Project | Group | 🌐 | 🌐

Mar. 2024 – Present

- An obstacle bot is an automated robot designed for a swarm robotic arena. It can move to desired positions, avoid collisions, and be programmed as static or dynamic obstacles
- Contribution:
 - * Firmware update of obstacle robots with collision avoidance algorithms for the swarm robotics platform.
 - * Integrating obstacle robots with the the existing platform, enabling studies of dynamic obstacle scenarios.
- **Technologies:** Arduino, Python, Java

CricVision: Cricket Analytics and Prediction | Group | 🌐 | 🌐

Mar. 2024 – Present

- CricVision can analyze data from all the T20 international matches played since 2010.
- By leveraging machine learning techniques, the system can predict the impact of a player on the match outcome and anticipate the events of the next ball, providing valuable insights for teams and fans.
- **Data set :** [cricsheet.org](https://www.cricsheet.org)
- Contribution:
 - * Web-scraped data on player types and weather conditions.
 - * Using various statistical and visual techniques to analyze the relationships between variables, identify patterns, and assess the relevance of features.
- **Technologies:** python, BeautifulSoup, TensorFlow

VisitLog: Digital Reporting Platform for Technical Visits | Group | |

Aug. 2023 – Nov. 2023

- A robust software application that simplifies the documentation of technical service visits, covering repairs, troubleshooting, and maintenance tasks. The process concludes with verification and approval from service recipients.
- A mobile application for technicians and a Desktop dashboard for the company administrators to efficiently manage tasks and technicians.
- Contribution:
 - * Developed the entire Mobile App using Flutter
 - * Designed the UI of the admin dashboard and developed it
 - * Managed collections within Firebase
- **Technologies:** React.js, Flutter, Firebase, Figma

Sproutopia: Baby Development Tracking System | Group | |


Aug. 2023 – Sep. 2023

- A web application that enables parents and caregivers to monitor and track the growth, milestones, and well-being of their babies
- Intended users: Parents, Caregivers, Healthcare Professionals, Educators and Researchers
- Contribution: Designed and developed the entire front-end of the system
- **Technologies:** React, Spring Boot, MySQL, JWT, JUnit 5

Technical Skills

Languages	Python, C/C++, Java, JavaScript/TypeScript, Verilog HDL, ARM Assembly,
Developer Tools	Git/GitHub, Unix Shell, VS Code, IntelliJ PyCharm/IDEA, Atom
Frameworks	React.js, Express.js, Flutter
Libraries	NumPy, Pandas, Matplotlib, OpenCV

Achievements / Competitions

MoraXtream 8.0 12 hour algorithmic programming competition Organized by the IEEE Student Branch of the University of Moratuwa Team Name - Five4Five, National Rank - 4(Out of 450+ participants)	Nov. 2023
IEEEExtream 17.0 24 hour algorithmic programming competition Team Name - Five4Five, Global Rank - 374(Out of 7091 participants)	Nov. 2023
Aces Coders v10.0 12 hour algorithmic programming competition Organized by the Association of Computer Engineering Students of the University of Peradeniya Team Name - Five4Five, National Rank - 12(Out of 350+ participants)	Oct. 2023
Aces PreCoders v10.0 6 hour algorithmic programming competition Team Name - Five4Five, Rank - 2(Out of 50+ participants)	Sep. 2023
NBQSA National ICT Awards IntelliSwitcher: Intelligent Domestic Energy Optimizing System  Participation	Aug. 2023

Selected Certificates

Machine Learning Specialization Stanford University and DeepLearning.AI(Coursera) <ul style="list-style-type: none">• <u>Supervised Machine Learning: Regression and Classification</u>• <u>Advanced Learning Algorithms</u>	Apr. 2024
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Extra-Curricular Activities

Member of the Web Consultation team of University of Peradeniya	2023 – Present
Senior Member of FASE (Foundation of Astronomical Studies and Exploration)	2019 – Present
Member of Rotaract Club of University of Peradeniya	2022 – Present
Member of the Athletics team of Dharmaraja College, Kandy	2013 – 2017

References

Prof. Roshan G. Ragel roshanr@eng.pdn.ac.lk Head of Department, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka
Dr. Isuru Nawinne isurunawinne@eng.pdn.ac.lk Senior Lecturer, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya, Sri Lanka