

# Chandula Adhikari

Department of Computer Engineering, University of Peradeniya, Srilanka

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## Profile

Driven by a passion for problem-solving, I thrive on challenges that push me to find innovative solutions. I am a firm believer in the transformative power of technology, and how it can revolutionize our lives in countless ways. My interests are diverse, yet 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

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

Feb. 2024 – Present

### Developer/ Maintainer | *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
- **Technologies:** React, Spring Boot, MySQL, JWT, JUnit 5

## Technical Skills

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

## Achievements / Competitions

<b>MoraXtream 8.0</b>   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
<b>IEEE Xtream 17.0</b>   24 hour algorithmic programming competition Team Name - Five4Five, Global Rank - 374(Out of 7091 participants)	Nov. 2023
<b>Aces Coders v10.0</b>   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
<b>Aces PreCoders v10.0</b>   6 hour algorithmic programming competition Team Name - Five4Five, Rank - 2(Out of 50+ participants)	Sep. 2023
<b>NBQSA</b>   National ICT Awards IntelliSwitcher: Intelligent Domestic Energy Optimizing System    Participation	Aug. 2023

## Selected Certificates

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