# Chandula Adhikari

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## Interests

| Computer Vision | Machine Learning | Computer Architecture | Embedded Systems |
|---|---|---|---|

## Education

**University of Peradeniya**                                      Mar. 2021 - Present
BSc.Eng(Hons.) in Computer Engineering                 Current GPA: **3.85/4.0**

**Dharmaraja College, Kandy**                                  Jan. 2006 - Dec. 2019
G.C.E. Advanced Level Examination - 467 from 19500+ participants nationwide          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, 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
- **Technologies:** Raspberry Pi, AWS S3, IoT Core, Lambda, Node.js, and MongoDB.

**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 international matches played by Sri Lanka in past recent years.
- By leveraging machine learning, it predicts player impact on match outcomes, providing valuable insights for teams and fans.
- **Technologies:** python

**VisitLog: Digital Reporting Platform for Technical Visits** | *Group* | ⌂ | 🌐    Aug. 2023 – Nov. 2023
- Developed 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 Professionsls, Educators and Researchers
- **Technologies:** React, Spring Boot, MySQL, JWT, JUnit 5

## Technical Skills

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| **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 |

## Achievements / Competitions

**MoraXtream 8.0** | 12 hour algorithmic programming competition    Nov. 2023
Organized by the IEEE Student Branch of the University of Moratuwa
Team Name - Five4Five, National Rank - 4(Out of 450+ participants)

**IEEEXtream 17.0** | 24 hour algorithmic programming competition    Nov. 2023
Team Name - Five4Five, Global Rank - 374(Out of 7091 participants)

**Aces Coders v10.0** | 12 hour algorithmic programming competition    Oct. 2023
Organized by the Association of Computer Engineering Students of the University of Peradeniya
Team Name - Five4Five, National Rank - 12(Out of 350+ participants)

**Aces PreCoders v10.0** | 6 hour algorithmic programming competition    Sep. 2023
Team Name - Five4Five, Rank - 2(Out of 50+ participants)

**NBQSA** | National ICT Awards    Aug. 2023
IntelliSwitcher: Intelligent Domestic Energy Optimizing System | ⌂
Partcipation

## Extra-Curricular Activities

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| 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

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