IRASH PERERA

B.Sc. Engineering Honours
Computer Science and Engineering Undergraduate,
University of Moratuwa.

 GitHub | LinkedIn | Website
Email: irash.21@cse.mrt.ac.lk
Mobile: +94 701 139 739

EDUCATION

- **B.Sc. (Hons) in Computer Science and Engineering, specializing in Data Science and Engineering.**
  - University of Moratuwa   (2021 – Present)
  - **CGPA**: 3.8514 / 4
  - **Dean's List**: Achieved every semester to date. (Semester 1 - 3.85, Semester 2 – 3.84, Semester 3 – 3.86)   See transcript
- **GCE Advanced Level Examination – Physical Science Stream**
  - Central College, Anuradhapura   (2020)
  - **Island Rank**: 379
  - **Z-score**: 2.2812
  - Combined Mathematics – A/ Physics – A/ Chemistry – A/ General English - A
- **GCE Ordinary Level Examination**
  - Central College, Anuradhapura   (2017)
  - 8As and 1B, B for English Literature

PROJECTS (View more on my website)

1. **EduGenius** *(Sem 5 Project)* – A multimodal educational AI assistant, including Retrieval-Augmented Generation (RAG), to dynamically generate contextually relevant guidance and explanations for the students in math problems offering a comprehensive and interactive tutoring experience by delivering real-time feedback, and performance tracking. (Ongoing)

2. **PlateVisionAI** – A project that aims to automate the process of license plate recognition and vehicle tracking utilizing the YOLOv8 object detection model and a custom pre-trained model specifically for license plates, built with Python, OpenCV, and Streamlit.

3. **Research Companion** –AI-powered tool that helps researchers to quickly find exact and precise information from research papers and articles by scraping and storing data in an embedded format, allowing retrieval through semantic search using LangChain, Chroma, and Gemini-Pro.

4. **HR Management System** *(Sem 3 Project)* – A fully comprehensive full stack HR management system to manage employee profiles, leave requests, approvals, and report generation, while offering customizable features and non-functional requirements.

5. **Natours** – A backend RESTful API -a powerful system designed to manage and streamline tour operations for commercial tour organizing companies, for providing robust functionality for tour management along with integrated comprehensive frontend development. ⎘

6. **VirtualFingerMouse** – A system built with OpenCV and MediaPipe, to control the computer only with hand gestures without using a mouse. The hand gestures are detected by a camera and the mouse operations are controlled by the hand movements. ⎘

7. **Object Tracking System** – A system to track people in urban areas utilizing the YOLOv8 model to detect people in the video frames and the Deep Sort algorithm to track detected people. ⎘

8. **Multiple Hand Gesture Detection System** – A simple application to detect most common hand gestures with a model trained with custom dataset. ⎘

9. **RPAL Language Project** *(Sem 4 Project)* **–** A python-based interpreter for the Right Reference Pedagogic Algorithmic Language. ⎘

10. **Pintos OS Projects** *(Sem 3 Project)* – Two projects focused on two core modules in Pintos – an interactive shell initialization and user program functionalities. ⎘

CORE SKILLS

- **Web Development**
  Node, React, Firebase, Streamlit, MongoDB, MySQL

- **Machine Learning and Data Manipulation**
  Scikit-learn, Pandas, NumPy, Langchain, Chroma, OpenCV, Mediapipe, Keras, TensorFlow

- **Languages**
  Python, C, C++, Java, JavaScript, HTML, CSS

- **Version Controlling**
  git, GitHub

HONORS AND AWARDS (View on my website ⎘)

1. **1st Place** - Cypher 2.0 Inter-University Hackathon, organized by Kothalawala Defence University and AION Campus Pvt. Ltd. (March 2024)
2. **Finalist** - Crack the Code - Enigma '24 Hackathon, organized by the Mathematical Society of the University of Moratuwa. (March 2024)
3. **Dean's List** - Consistently achieved from Semester 1 to Present. (2021 – Present)
4. **3rd Best All-Island Performance** - Senior Division, 2019 Australian National Chemistry Quiz, organized by the Royal Australian Chemical Institute and conducted by the Institute of Chemistry Ceylon. (November 2019)

5. **Awarded for Academic Performance** – A/ Central College Prize Giving, 6 years.

(2013, 2014, 2015, 2017, 2019, 2020)

VOLUNTEERING

1. **Organizing Committee Member – EXMO 2023**
   An esteemed member of the Organizing Committee for EXMO 2023, the flagship technological
   exhibition of the University of Moratuwa   (2023)

2. **Organizing Committee Member – CSE Career Fair 2024**
   Volunteered as a member of Organizing Committee for CSE Career Fair 2024, which was organized by
   the Department of Computer Science and Engineering Department.   (2024)

3. **Design Team Member – VRCADE**
   Volunteered as a Design Team Member in VRCADE which was organized by the IEEE Student Branch,
   University of Moratuwa.   (2023)

OTHER

- **Student Member**, Institution of Engineers Sri Lanka (IESL).   (2021- Present)

- **Student Member**, IEEE Student Branch of University of Moratuwa, Sri Lanka.   (2023- Present)

- **Prefect**, Central College, Anuradhapura, Sri Lanka.   (2016-2018)

- **Head Prefect**, D.S. Senanayake Primary College, Anuradhapura, Sri Lanka.   (2010-2011)

REFERENCES

Dr. Chathuranga Hettiarachchi

Senior Lecturer,

Department of Computer Science and Engineering,

Faculty of Engineering,

University of Moratuwa

+94 70 406 7543

chathuranga@cse.mrt.ac.lk

Prof. Dulani Meedeniya,

Senior Lecturer,

Department of Computer Science and Engineering,

Faculty of Engineering,

University of Moratuwa, Sri Lanka.

+94 71 393 5801

dulanim@cse.mrt.ac.lk