

MADHUSHAN RAMALINGAM

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[drmadhushan.github.io](https://github.com/drmadhushan) [github/DrMadhushan](https://github.com/DrMadhushan) [hackerrank/drmadhushan](https://www.hackerrank.com/drmadhushan)

OVERVIEW

Computer Engineering grad and MSc candidate in Data Science and AI, with a blend of software engineering experience and applied research in large language models. Currently a Data Science Researcher, exploring how AI can advance social good and ethical technology. Experienced in building data pipelines, experimenting with state-of-the-art LLMs, and developing AI-assisted tools for low-resource language contexts. Former Software Engineer in fintech, with strong foundations in backend development, Python, and scalable system design. Passionate about creating trustworthy and impactful AI systems that bridge innovation and real-world benefit.

EDUCATION

University of Moratuwa

Master of the Science in Data Science & Artificial Intelligence – Expected Graduation - Dec 2026

Jan 2025 – present

Colombo, Sri Lanka

University of Peradeniya

Bachelor of the Science of Engineering Honours in Computer Engineering – CGPA: 3.6

Dec 2018 – Dec 2023

Kandy, Sri Lanka

St. Anthony's College, Kandy

G.C.E A/L - Physical Science – Z-Score: 2.4058 : District Rank (Kandy): 3rd & Country Rank: 55th

Feb 2009 – Aug 2017

Kandy, Sri Lanka

RESEARCH WORK AND PROJECTS

AI-assisted Ethical Language Compliance using Large Language Models <i>Python, LLM, RAG, AI Eval</i>	Aug 2025 - present
<ul style="list-style-type: none">Develop dashboard and editor tool integrated with RAG system for ethical journalismIterative evaluation and Prompt engineering for LLM system to refine compliance check output.	
Empirical Evaluation of LLM Systems in Fact-checking <i>Python, LLM, Hugging Face</i>	July 2025 - present
<ul style="list-style-type: none">Develop informed research pipeline for factchecking task employing SOTA LLMs and RAG strategies	
Explainable Predictive Pipeline for Project Risk Identification in DonorsChoose <i>Python, ML, XAI</i>	2023 - 2024
<ul style="list-style-type: none">Developed ML pipeline for data processing, feature engineering, and training.Utilized Explainable AI to analyze predictions and resolve disagreements in XAI method explanations.	
Research on Alternative Labelling Strategy to Improve Supervised ML <i>Python, Pandas</i>	Accepted SLSWCS 2023
<ul style="list-style-type: none">Applied data engineering for data collection, labeling with diverse data sources with label agreement analysis.	
DreamSave Insights API <i>Python, Flask, Pydantic, Pyspark, MongoDb, Power BI</i>	Dec 2022 - June 2023
<ul style="list-style-type: none">Developed API features & optimized queries for data query and insights service provider backend.	
Smart Inventory System <i>Laravel, Vue Js, MySQL, Electron, Raspberry Pi, MQTT</i>	May 2021 - Sept 2021
<ul style="list-style-type: none">Developed a smart inventory management system and designed interactive KIOSK app.	
B2B supply chain system <i>Python, Django, MySQL, Bootstrap</i>	Sept 2020
<ul style="list-style-type: none">Implemented a web app & a RDBMS to handle multiple business inventory and orders	

EXPERIENCE

LIRNEasia

July 2025 – present

Data Science Researcher

Data, Algorithm & Policy Team

- Lead the design of an AI-assisted ethics monitor to support journalists and improve ethical compliance - AI Eval
- Develop and optimize data pipelines and LLM-based workflows for projects addressing misinformation in low-resource language contexts - LLM, RAG
- Conduct data analysis on virality patterns in X using ML and statistical techniques - Pandas, Scikit Learn
- Develop organizational policies for internal data management and technical research practices

Enactor Limited

Jan 2024 – June 2025

Software Engineer

Enactor Platform & Leroy Merlin Italy Dev Team

- Improved team's development and test workflow speed by 8 times using containerization techniques - Docker
- Design and implement customized features for customer requirements - Javascript, React, POS system
- Investigate and convert of SOAP services to REST API - Java, Enactor tools, Jenkins

Edith Cowan College, Australian College of Business and Technology, Sri Lanka

Jun 2024 – Jan 2025

Visiting Lecturer - Python & Engineering Foundations

Diploma of Science (Computing/IT)

- Conducting in-person lectures for Programming Principles in Python & Introduction to Engineering courses.

Calcey Technologies PVT LTD	Dec 2022 – June 2023
Intern Software Engineer - Python Backend	<i>Dream Start Labs Project - DreamSave Insights API</i>
• Develop, maintain and optimise API features with flask framework with software engineering best practices.	
Department of Computer Engineering, UoP	Dec 2022 – present
Team Leader	<i>PeraCom Seminar Organizing Committee</i>
• Setting up seminar standards and communicate to organize the seminar.	
• Networking with academia and industry experts.	
AIESEC in Kandy	February 2020 – December 2021
Team Leader	<i>Incoming Global Teacher/ Talent</i>
• Pitched business proposals and products for schools and companies in Sri Lanka based on monthly target.	
• Signed partnerships with Sun British College, Vavuniya for Global teacher.	
Department of Computer Engineering, UoP	May 2021 – present
Casual Instructor	<i>Computing, Computer Networks, Software Construction</i>
• Assisted lecturers to conduct labs for computer engineering courses.	
Web Consultation Team, University of Peradeniya	May 2020 – Aug 2021
Member-in-Charge for Student web pages and quality content	
• Collaborated on university web ranking improvement and provided SEO and web quality enhancement recommendations to Gulf University Sanad, Bahrain.	

ACHIEVEMENTS/ EXTRACURRICULAR

NVIDIA Certification	2025
<i>Fundamentals of Deep Learning</i>	NVIDIA DLI
AWS Certification	2025
<i>Cloud Data Pipeline Builder</i>	AWS Academy
Coders v9.0 Inter-University Competitive Programming Contest – ACES	2022
<i>5th place out of 100+ teams</i>	<i>University of Peradeniya</i>
• Worked on algorithmic problem solving.	
Hacktitude 2022 Inter-University Hackathon – 99x	2022
<i>37th place out of 200 teams</i>	<i>University of Peradeniya</i>
• Worked on a real-world project involving a web-based LMS application.	
• Implemented features and fixed software bugs as a remote team collaboratively contributing to git	
Sri Lanka Student Workshop on Computer Science – University of Jaffna	2023
<i>Authored an extended research abstract</i>	<i>SLSWCS'23</i>
Coders v10.0 Inter-University Competitive Programming Contest – ACES	2023
<i>Organizing Committee Member</i>	<i>University of Peradeniya</i>
• Took part in problem creation and moderation for competitive programming contest.	
Hackadev - National Youth Social Innovation Challenge	2020/21
<i>Participated and completed 6 week social innovation bootcamp</i>	<i>United Nations Development Programme</i>
Rotaract Club	2020
<i>Member : Participated in community projects to support underprivileged students in Kandy</i>	<i>University of Peradeniya</i>
G.C.E Advanced Level	2017
<i>3rd in Kandy district & 55th in the country</i>	<i>St. Anthony's College, Kandy</i>
<i>Awarded as the Best Student in the School in Physical Science Stream for the year 2017</i>	
All Island Social Science Competition	2010
<i>Ranked 3rd in national level</i>	<i>St. Anthony's College, Kandy</i>

SKILLS

Programming Languages: Python, Java, C, JavaScript, SQL	
Libraries: Numpy, Pandas, Pydantic, PySpark, Matplotlib, Pytest, TensorFlow, Scikit-learn	
Developer Tools: VS Code, Git, IntelliJ, Eclipse, GitHub, Azure, AWS, Docker, Postman	
Technologies/Frameworks: Flask, FastAPI, MySQL, MongoDB, Django, Express, Linux, CoLab, Enactor, React	
Web: HTML, CSS, JavaScript, Bootstrap, REST	

REFERENCES

Prof. Roshan G. Ragel	roshanr@eng.pdn.ac.lk
<i>Head of the Department – Department of Computer Engineering</i>	<i>Faculty of Engineering, University of Peradeniya</i>
Dr. Damayanthi Herath	damayanthiherath@eng.pdn.ac.lk
<i>Senior Lecturer, Department of Computer Engineering</i>	<i>Faculty of Engineering, University of Peradeniya</i>