

UVINI RANAWEERA

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I'm interested in developing cutting-edge machine learning (ML) models and leveraging data analytics to enhance data-driven decision-making.

Research Interests: [Natural Language Processing](#) [ML for Business Applications](#) [Database Management Systems](#)

Research Directions: [Explainable AI](#) [Language-driven AI](#) [Agentic AI](#) [Semantic Analysis](#)

EDUCATION

PhD in Engineering and IT May 2026 - Present
University of Melbourne, Australia

Bachelor of Business Science (Honours), Specialised in Business Analytics Dec 2019 - Mar 2024
University of Moratuwa, Sri Lanka GPA: 4.11 of 4.2

- **Thesis Title:** "Multi-class Document Classification for Reports on Digital Development: A Case Study on USAID DEEM" (Supervised by: Dr Tiloka de Silva & Mr Supun Gothama)

RESEARCH PROJECTS

LLM-powered Agentic AI to Streamline Data Management Tasks 📄
Supervisors: A/Prof Renata Borovica-Gajic & Prof. Eun-Jung Holden, UniMelb May 2026 - Present

RAG-enabled Chatbot | Python, LLMs 🔗
Supervisor: Dr U. Ganegoda, University of Moratuwa Mar 2024 - Jul 2024

- Developed a chatbot that performs accurate context-aware question answering with the help of Retrieval Augmented Generation (RAG). Additionally, this project involved comparing the performance of different open-source LLMs in RAG.

An Automated Tool for E-Document Classification | Python, NLP 🔗
Supervisors: Dr Tiloka de Silva & Mr. Supun Gothama, University of Moratuwa Nov 2022 - Nov 2023

- Automated the document classification process for USAID DEEM - a database holding reports on digital development interventions, by proposing a One-vs-Rest machine learning model. The study explores how combining multiple classification algorithms can lead to better results, especially when dealing with documents that are not class-balanced.

INDUSTRY EXPERIENCE

GovTech, Sri Lanka Part-time

Digital Transformation Analyst Nov 2025 - Mar 2026

- Served on secondment from the University of Moratuwa to the Digital Economy Expert Support Unit (DEESU). DEESU is a temporary, high-impact team under the leadership of Dr Hans Wijayasuriya, the Chief Advisor to the President of Sri Lanka on the Digital Economy, to fast-track the digital transformation agenda of the Government of Sri Lanka.

Acuity Knowledge Partners, Sri Lanka

Full-time, Hybrid

Consultant - Data Technology Solutions

Jan 2025 – Mar 2025

- Automated Python scripts to minimise repetitive tasks in file management, data extraction, data processing, and data validation as a part of digitalisation efforts.

Analyst - Data Technology Solutions

Apr 2024 – Dec 2024

- Developed and deployed time-series models with geolocation data to forecast sales trends across multiple industries.
- Conducted Python workshops for over 500 undergraduates across three state universities.

Intern - Data Technology Solutions

Oct 2023 – Mar 2024

- Published a white paper titled "Portfolio Optimisation Approach Combining Quantum Meta-Heuristics and Mathematical Programming"
- Built a tool to detect and extract content from unstructured financial tables using Python libraries and table transformers.
- Developed a chatbot as an internal initiative to facilitate conversations with meeting minutes. Several open-source LLMs, including variants of Llama and Mistral, were tested for their performance.
- Built a data fetching pipeline using Python to extract data from a SQL database and generate visualisations on a dashboard developed with Plotly Dash.

TEACHING EXPERIENCE

University of Moratuwa, Sri Lanka

Full-time, On-site

Lecturer - Department of Decision Sciences

Jan 2025 – May 2026

- Undergraduate courses delivered: DA3111 - Text Analytics, DA4131 - Advanced ML Applications for Business, DA2111 - Statistical & Machine Learning, DA3131 - Data Mining
- Co-supervised undergraduate research projects in the cross-section of Data Science with finance, health, marketing, tourism and education.

PUBLICATIONS

- [1] U. Ranaweera, B. Mawitagama, S. Liyanage, S. Keshan, T. de Silva, and S. Hewawalpita, "Comparison of Machine Learning Models to Classify Documents on Digital Development," in Communications in Computer and Information Science, Springer, Nov. 2023. doi.org/10.1007/978-981-99-7969-1_5 **conference**
- [2] R. Dayarathne, U. Ranaweera, and U. Ganegoda, "Comparing the Performance of LLMs in RAG-based Question-Answering: A Case Study in Computer Science Literature", in Lecture Notes on Data Engineering and Communications Technologies, Springer, Jan. 2025. doi.org/10.1007/978-981-97-9255-9_26 **conference**
- [3] V. Nuhansa, I. Mahakalanda, U. Ranaweera, and R. Krishthogu, "What She Signs They Mine: Quantifying the Gaps in FemTech Privacy Policies", in 6th International Conference on Data Analytics for Business and Industry (ICDABI), IEEE, Oct. 2025. **conference**
- [4] J. Halwala, S. Perera, U. Ranaweera, and S. Silva, "Early Prediction of Severe Dengue Using Machine Learning", in 10th International Conference on Information Technology Research (ICITR), IEEE, Dec. 2025. doi.org/10.1109/ICITR69413.2025.11353903 **conference**

[5] R. Fernando, T. Kabilashika, A. Gunawardana and U. Ranaweera, "Bridging the Gap: An NLP-Based Comparative Analysis of Commerce Stream Degree and Professional Qualification Curricula in Sri Lanka", in 8th International Conference on Business Research (ICBR), Dec. 2025. **best paper award**

[6] C. Perera, U. Ranaweera, and I. Mahakalanda, "Mining Strategic Business Insights from Online Reviews: A Case Study in the Southern Coast of Sri Lanka", in Lecture Notes in Networks and Systems, Springer, Jan. 2026. doi.org/10.1007/978-3-032-12996-3_38 **conference**

HONOURS & AWARDS

- Melbourne Research Scholarship** 2026
Offered to high-achieving domestic and international students who are enrolling in a graduate research degree.
- Gold Medal in Business Science** 2024
Awarded to the Business Science Graduand who has obtained the highest Overall Grade Point Average at the Bachelor of Business Science Honours Degree examinations.
- Dean's List Awardee** 2020-2024
Eight Dean's List awards (all semesters) for maintaining a Semester Grade Point Average of 3.8 or above at the Bachelor of Business Science Honours Degree semester examinations.
- National Merit Scholarship** 2019
Awarded to students who excelled at the university entrance exam: Ranked second in Sri Lanka.

TECHNICAL SKILLS

Languages: Python, R
Libraries & Technologies: Scikit-Learn, NLTK, LangChain, pySpark, Pandas, Transformers
Concepts: Natural Language Processing, Machine Learning, Data Analytics, Data Visualisation
Tools: Visual Studio Code, Git, Power BI, Tableau

SERVICE & LEADERSHIP

Reviewer | 10th International Conference on Information Technology Research (ICITR 2025)
Conference Secretary | 8th International Conference on Business Research (ICBR 2025)
Co-editor | 14th Sri Lanka Economic Research Conference (SLERC 2025)
Founding Member & Tutor | PyData Sri Lanka (Present)
Global Volunteer | Tempo Music Academy, Egypt (Mar 2023)
Vice President Professional Development | Rotaract Club of University of Moratuwa (2020-23)

**References available upon request.*