UVINI RANAWEERA

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As a pending graduate with hands-on experience in the industry, I have engaged in both independent & collaborative work, which underscores my flexibility. I'm interested in developing cutting-edge Machine Learning models and leveraging data analytics to enhance data-driven decision-making.

EDUCATION

BBSc. (Hons) Sp. Business Analytics *Expected Aug 2024*
University of Moratuwa, Sri Lanka *GPA: 4.11 of 4.2*

- **Relevant Coursework:** Text Analytics, Machine Learning, Deep Learning Applications for Business, Probability and Statistics, Mathematical Methods for Business, Data Visualization for Business, Database Management, Data Structures and Algorithms, Data Mining, Business Intelligence

CIMA Exams Completed *May 2024*
Chartered Institute of Management Accountants, UK

INDUSTRY EXPERIENCE

Research Analyst - Specialized Solutions *Apr 2024 – Present*
Acuity Knowledge Partners *Sri Lanka*

Research Intern - Specialized Solutions *Oct 2023 – Mar 2024*
Acuity Knowledge Partners *Sri Lanka*

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. https://doi.org/10.1007/978-981-99-7969-1_5 **Conference**

[2] R. Dayarathne, U. Ranaweera, 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 in Computer and Information Science, Springer. **in press**

[3] D. Sonnadara, A. Mahasinghe, U. Ranaweera, L. Hettiarachchi, R. Fernando, N. Arsacularatne, K. Dharmasiri, G. Seneviratne, and A. Prabashwara "Portfolio Optimisation Approach Combining Quantum Meta-Heuristics and Mathematical Programming", Acuity Knowledge Partners, Jul. 2024. https://www.acuitykp.com/market-guide/portfolio-optimisation-approach-with-quantum-computing/ **Whitepaper**

RESEARCH PROJECTS

RAG-enabled Chatbot | *Python, LLMs*
Supervised by Dr. U. Ganegoda, University of Moratuwa

- Compared the performance of open-source LLMs in Retrieval Augmented Generation. Currently, we are testing out if knowledge graphs have significant importance over vector databases in RAG applications.

A Quantum Approach for Portfolio Optimization | *Python, Quantum Computing*
Supervised by Prof. A. Mahasinghe, University of Colombo

- Tested out the power of quantum computing to overcome unrealistic assumptions in the vanilla Markowitz model. The study led us to a reformulation of the Markowitz optimization model to an integer program enhancing its applicability in real-world financial contexts.

An Automated Application for e-documents Classification | *Python, NLP*
Supervised by Dr. Tiloka de Silva & Mr. Supun Gothama, University of Moratuwa

- Proposed a One vs Rest Approach for multiclass classification of e-documents. Instead of using just one algorithm, the study explores how combining multiple algorithms can lead to better results, especially when dealing with documents that are not class-balanced.

TECHNICAL SKILLS

Languages: Python, R
Libraries & Technologies: Scikit-Learn, NLTK, LangChain, pySpark, Pandas, Hugging Face Transformers
Concepts: Natural Language Processing, Machine Learning, Big Data Analytics, Data Visualization
Tools: Visual Studio Code, Git, PowerBI, Tableau

VOLUNTEERING

Tutor | PyData Sri Lanka Youtube Channel (Present)
Exchange Participant | Tempo Music Academy, Egypt (2023 March)
Graphic Designer | AIESEC International (2022-23)
Vice President Professional Development | Rotaract Club of University of Moratuwa (2020-23)

*References available upon request.