

RUVARASHE SHALOM MADZIME

Cape Town, South Africa | 4158028@myuwc.ac.za | [linkedin.com/in/ruvarashe-madzime](https://www.linkedin.com/in/ruvarashe-madzime)

RESEARCH INTERESTS

Neurosymbolic AI, in particular how logical structure can be embedded into neural networks during training rather than recovered from them afterwards, and how networks induce symbolic representations directly from data. My MSc focused on the KLM framework for formal non-monotonic reasoning, establishing when learned rule sets coincide with non-monotonic entailment.

EDUCATION

MSc Computer Science, University of the Western Cape & CAIR

Feb 2025 - Oct 2026

- Thesis: Toward a Defeasible Semantics for Symbolic Classifiers. Supervisors: Prof. Thomas Meyer (tmeyer@cair.org.za) and Prof. Louise Leenen (lleenen@uwc.ac.za).
- Area: Knowledge Representation, Defeasible Reasoning, Interpretable ML.

BSc (Hons) Computer Science, University of the Western Cape

Jan 2024 to Nov 2024

- Cum Laude (85%). Modules: AI, Applied Data Science, IoT, Cybersecurity, Big Data Engineering.

BSc Computer Science, University of the Western Cape

Mar 2021 to Nov 2023

- Cum Laude (84%). Key modules: Artificial Intelligence, Mathematics, Statistics.

PUBLICATIONS

- Madzime, R., and Meyer, T. (2026). Toward Defeasible Machine Learning: When Learned Rule Sets Become Defeasible Theories. In Proceedings of the 24th International Workshop on Nonmonotonic Reasoning (NMR 2026), Federated Logic Conference (FLoC), Lisbon, Portugal.
- Madzime, R. (2026). Toward a Defeasible Semantics for Symbolic Classifiers. In Proceedings of the Doctoral Consortium of the 23rd International Conference on Principles of Knowledge Representation and Reasoning (KR 2026 DC), Federated Logic Conference (FLoC), Lisbon, Portugal.
- Karge, J., Ferguson, R., Grimaldi, D., Haldimann, J., Madzime, R., and Meyer, T. (2026). First Steps Towards Human-AI Ranking Aggregation. In Proceedings of the Joint Workshop on Statistics and Knowledge Integration for Logic, Learning, Ethical Decisions, and LLMs (SKILLED-LLMs 2026), Federated Logic Conference (FLoC), Lisbon, Portugal.
- Madzime, R. S., Meyer, T., and Leenen, L. (2025). An Override-Aware Classifier for Transparent AI. In Proceedings of the 6th Southern African Conference on Artificial Intelligence Research (SACAIR 2025), Cape Town, South Africa.
- Madzime, R., and Nyirenda, C. (2024). Enhanced Electronic Health Record Text Summarisation Using Large Language Models. In Proceedings of the 5th Southern African Conference on Artificial Intelligence Research (SACAIR 2024), Bloemfontein, South Africa.

EXPERIENCE

Research Assistant (SARChI NRF), University of the Western Cape

Mar 2026 to Present

- Provide teaching support for postgraduate CS modules under Prof. Leenen's NRF SARChI Chair grant.
- Assist BSc Honours students with their research projects, particularly in preparing manuscripts for submission to academic venues.

Graduate Lecturing Assistant, University of the Western Cape

Feb 2025 to Nov 2025

- Ran tutorials and one-on-one consultations for CS modules, making complex topics accessible for 50+ students.
- Graded assignments and exams; supported student queries.

Graduate Research Assistant, University of the Western Cape

Jan 2024 to Nov 2024

- Built an LLM-based summarization system for Electronic Health Records, published at SACAIR 2024.
- Designed the full system from dataset analysis through to model evaluation using Python and ML tools.

Python Software Developer, Apparel Technology Inc.

Oct 2023 to Mar 2024

- Built a Python and Arduino monitoring system that tracked factory machine uptime and productivity in real time.
- Created a data visualization dashboard with Python Dash, giving operations teams live insight into machine performance.

HONORS & AWARDS

- UWC Mastercard Foundation Scholarship (2025 to 2026)
- Top Computer Science Student, University of the Western Cape (2023)
- KnowBe4 Women in Cybersecurity Scholarship (2023)
- Dean's Merit Award, University of the Western Cape (2021, 2022, 2023, 2024)

TECHNICAL SKILLS

Languages and tools: Python, Java, SQL, Answer Set Programming (Clingo), SMT solvers (Z3), Git, LaTeX.

AI and research: PyTorch, scikit-learn, Hugging Face, SHAP, defeasible reasoning, knowledge representation, LLMs, RAG, cloud deployment.