

Summary

Master's student in Artificial Intelligence and Computer Science with a strong foundation in deep learning, intelligent systems, and software development methodologies. Proven ability to design, implement, and deliver AI-based projects, including a medical report generation system using ResNet and GPT-2, and a competitive search-based AI agent. Experienced in agile workflows, CI/CD, and data visualization.

Education

University of Calabria

Calabria, Italy

MSc. in Artificial Intelligence and Computer Science.(GPA 26.44/30)

2024 – 2026 (expected)

Key courses: Deep Learning, Research and Agile Development Methodologies,

Intelligent Systems, Neuro Symbolic AI, Optimization for Machine Learning,

Big Data Analytics and Reasoning

Mekelle Institute of Technology - Mekelle University

Tigray, Ethiopia

BSc. in Computer Science and Engineering (CGPA: 3.93 / 4.00).

2014 – 2019

Thesis: Digital Equb(FinTech web app)

Key courses: Neural Networks and Fuzzy Logic, Artificial Intelligence and Expert Systems,

Image Processing, Distributed Systems

Awards

Erasmus+ international mobility scholarships (MOST)

2025/2026

Erasmus+ Traineeship scholarships (G.R.E.A.T.)

2024/2025

Unical Admission - Masters Degree Extra EU with Scholarship

2024/2025

Undergraduate Excellence Scholarship Mekelle Institute of Technology

2014

Work Experience

Mekelle Institute of Technology - Mekelle University

2021 - 2024

Assistant Lecturer

- Delivered lectures and tutorials in Computer Science and Engineering courses, communicating complex concepts clearly to undergraduate students.
- Developed and implemented hands-on laboratory exercises and programming assignments.
- Advised students on internship projects and capstones, guiding project scope, technical design, implementation strategies, and professional deliverables.
- Coordinated student project teams and oversaw code repositories, version control workflows, and integration/testing practices.

Tekeze Technologies PLC, Mekelle

Part-time software developer

2023 - 2024

Full-time software developer

2020 - 2021

- Led end-to-end development of 2 enterprise web apps (Sales Management, Indigent Management), reducing manual workflows by 80% and boosting client revenue.
- Designed and implemented real-time analytics dashboards with dynamic reporting features, enabling stakeholders to make data-driven decisions and respond to market trends 70% faster.
- Drove a 40% improvement in operational efficiency through process automation, workflow optimization, and adoption of agile methodologies, reducing redundancies and accelerating project delivery.
- Improved team code quality by 45% via PR reviews and CI/CD pipeline optimization.

Projects

Automated Medical Report Generation from Chest X-Rays

The project aimed to assist clinicians by reducing reporting time and minimizing human error, leveraging state-of-the-art multimodal AI techniques. Developed a multimodal medical-report generator (ResNet-50 encoder + GPT-2 decoder) for Indiana chest X-rays, preprocessing 7.4k images and fine-tuning models to produce “Findings” and “Impressions”.

Keke AI Competition: Rule-Based Puzzle Solver (Runner-Up)

Designed and implemented a competitive AI agent (A* with IDA*) to solve dynamic puzzle levels where game rules are mutable objects that must be manipulated to win. Achieved 2nd place by developing a heuristic search strategy that efficiently navigated both spatial and rule-based state spaces, significantly outperforming baseline agents in accuracy (94% levels solved) and solution efficiency. The agent was evaluated on a hidden test set against other student teams, ranking second in overall performance.

Earthquake Data Warehouse & Visualization

Designed and built an end-to-end data warehousing and visualization solution for global earthquake data. Engineered an ETL pipeline to integrate, clean, and model complex seismic data from various sources. Developed an interactive Tableau dashboard to visualize trends, frequencies, and geographical impact, transforming raw data into actionable insights for disaster preparedness and analysis.

Phonebook and Messaging Web App

A centralized platform for managing university contacts, featuring real-time messaging to enhance communication among faculty, staff, and students. It includes role-based access, searchable profiles, and privacy controls within a user-friendly mobile-responsive interface.

Seminars

- **Image-to-Image Translation in Radiotherapy** - Prof. M. Francesca Spadea, KIT 2025
Explored the application of deep learning (CNNs, GANs) to generate synthetic CT scans from MRI and CBCT for precise radiation dose calculation. The seminar highlighted federated learning (FedSynthCT) as a key privacy-preserving solution for multi-institutional model training, addressing critical challenges in translating AI research into clinical practice.
- **How to Make Logics Neurosymbolic** - Prof. Luc De Raedt 2024
Explored the integration of neural networks, logic, and probability for robust AI. Covered the "NeSy recipe" and its implementation in systems like DeepProbLog and DeepStochLog, which use neural predicates and differentiable reasoning to combine learning with explicit knowledge.
- **LogicLM: Robust AI through Logic Programming** - Evgeny Skvortsov 2024
Introduced LogicLM, a framework using logic programming (Logica language) to generate reliable SQL from natural language, enhancing the correctness and transparency of LLM-based data analytics.

Technical Skills

- **Deep Learning:** PyTorch, Keras, Transformers.
- **Data & Dev:** NumPy, Pandas, scikit-learn, Git, Docker.
- **Programming Languages:** Python, R, TypeScript, JavaScript.