

# Alessandro Soccol

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## Work Experience

### University of Cagliari | Research Assistant

Cagliari, Italy | August 2024 – Ongoing

- Developed a state-of-the-art Framework for Explainable Recommender Systems on Knowledge Graphs
- Presented a paper in the 18th ACM Conference on Recommender Systems with 1100+ participants.

### University of Cagliari | Research Intern

Cagliari, IT | Sept 2023 – July 2024

- Author of the Paper: "KGGLM: A Generative Language Model for Generalizable Knowledge Graph Representation Learning in Recommendation" accepted at the **18th ACM Conference on Recommender Systems**. [Paper] [GitHub]
- Research on Knowledge aware Recommender Systems.

### University of Cagliari | Internship

Cagliari, IT | July 2023 - Sept 2024

- Knowledge gained on Quantum Computing with an in-depth analysis of general Shor's Algorithms for any semiprime number.

## Education

### M.Sc. in Computer Science and Artificial Intelligence (AI)

Cagliari, IT | Expected July 2026

University of Cagliari

- **Relevant Coursework:** Data Mining, Information Retrieval, Complex Networks, Deep Learning, Reinforcement and Adversarial Learning, Natural Language Processing and Knowledge Graphs

### B.Sc. in Computer Science

Cagliari, IT | Sept 2021 - July 2024

University of Cagliari

- Graduated with honours.
- In the top 5% students.
- Work accepted in the 18th ACM Conference on Recommender Systems [Paper].
- First graduate of the Bachelor's degree course.

### B.Sc. in Computer Engineering

Gijón, ES | January 2024 - June 2024

University of Oviedo

- Won an Erasmus+ scholarship to study for a period abroad
- Knowledge gained in Network and Systems Architecture and Security of Networks and Services.

## Projects

### A comparison of oversampling techniques using GAN and CycleGAN | Python, Keras, Tensorflow

- Conducted a comparative study of GAN and CycleGAN frameworks to enhance model performance. [GitHub]
- Generated 1,500+ synthetic data samples to improve a binary classifier's accuracy using Keras and TensorFlow.

### Spam email classification using Machine Learning | Python, Scikit-Learn, imblearn

- Built a binary classifier to detect spam emails using advanced machine learning techniques, achieving 96% accuracy. [GitHub]

## Relevant Publications

**Soccol, A, Balloccu, G., Boratto, L., Fenu, G., Marras, M. .** KGGLM: A Generative Language Model for Generalizable Knowledge Graph Representation Learning in Recommendation. In Proceedings of the 18th ACM Conference on Recommender Systems (pp. 1079-1084) [Paper] [GitHub]

## Skills

**Languages:** Python, R, SQL, LaTeX

**Tools:** PyTorch, Tensorflow, Keras, Huggingface Transformers, Pandas, Polars, Git, PostgreSQL, Docker, Git, AWS, Azure

**Technical Skills:** Machine Learning, Deep Learning, Data Mining, Statistics, Recommender Systems, Natural Language Processing, Reinforcement Learning, Graph Representation Learning, Data Structures and Algorithms, Knowledge Graphs