Scholarship reference | A-SIREN
---|---
**Company (name and address)** | **Siren**  
Sindice Italia Srl  
Viale Trento 115/117,  
38017 Mezzolombardo, Trento, Italy

**Type of Scholarship** | Level 2

**Title of Scholarship** | Knowledge graphs for complex natural language queries

**Industrial Tutor (full name + email address)** | Matteo Catena – matteo.catena@siren.io

**Academic Supervisor (full name + email address)** | To be defined

**Short Description of Internship and Thesis Activities, and Expected Outcome:**

Project 1 aims to enhance question-answering (QA) systems by integrating foundation models with knowledge graphs to handle complex natural language queries. The focus is on developing multi-hop reasoning methods, graph search analytics, and incorporating graph metrics into foundation model reasoning to improve query results. The outcome will be a sophisticated QA system capable of interpreting and executing complex queries, offering advanced search capabilities and intuitive user interfaces.

**Required Candidate Skills and Prerequisites:**

- The candidate must have programming skills; they must be comfortable modifying existing code and implementing new prototypes. The project will be developed in Java; therefore, its knowledge is preferred. Scripting skills are a plus, in particular with Python and its AI libraries.
- Knowledge of information retrieval is desirable.
- Knowledge of graph algorithms and metrics is desirable.
- Knowledge on how to experimentally evaluate the performance of ML and AI systems is a plus.
- Knowledge of foundation models (LLMs) is a plus.

Once the selection process is concluded, the company expects to interview the candidates before proceeding.