



UNIVERSITY  
OF TRENTO - Italy

Dipartimento di Ingegneria e Scienza dell'Informazione



# KnowDive

## Possibili collaborazioni



# 150 ore

## Frontend developer:

- Knows frontend development (React or Angular, at least one of the two, the other is easily learnable given prior knowledge of the other) [**must have**]
- interested in hybrid mobile development (mostly frontend) [**must have**]
- Interested in UI development [**nice to have**].
- Knows how to handle CMS (WordPress) [**nice to have**].
- Any experience in graphic design [**nice to have**]

## Backend developer:

- Knows backend concepts (REST API) [**must have**]
- Knows either Java Spring Boot or Python Django (will have to learn the other one, again, easy if he has prior knowledge of the other) [**must have**]
- Knows testing software (process, JUnit or similar) [**nice to have**]
- Interested in hybrid mobile development [**nice to have**]



# 150 ore

## Logic (online documentation) theory:

- Logic passed with high grades [**must have**]
- Interested in Logic [**must have**]
- Knowledge of latex, overleaf [**nice to have**].
- Knowledge of power point [**nice to have**].

## Logic (online documentation) exercises:

- Logic passed with high grades [**must have**]
- Interested in Logic [**must have**]
- Knowledge of power point [**nice to have**]
- Experience in use of graphic tools [**nice to have**]



# Tesi

**Domain language Annotator.** Development of an annotator for the generation of a domain language starting from an informal EER model, as generated by the Protege tool. The output is a LOD descriptive TBox and a LoD definitional Tbox, the first being the annotated knowledge teleontology generated from the EER model, and the second the domain language implicitly defined by the EER model.

**OpenStreetMap converter (OSM).** Generation of a domain language, descriptive TBox and Entity Graph from an OSM file. The Software developed will be made available open source, when of the minimally necessary quality.

**iLog App- asking questions.** The current iCal language (the de-facto standard for event representation in a calendar) will have to be extended to become a full planning language. This planning language will have to have at least two agents (and maybe more)

**Test suite streambase.** A suite of testing tools for the backend of a platform for data collection



# Tesi

**Large Language Model (LLM) evaluation.** Evaluation of the data quality of a state of the art LLM with the goal of establishing the quality of the data generated via prompting. The evaluation will have to be performed via a set of case studies to be designed, targeted to the goal above.

**Specification and automatic generation of language TBox starting from a state of the art lexicon.** The work will consist of taking a multilingual lexicon, revising and extending the language encoding mechanisms, identifying a case study of a few thousand concepts, etypes and properties, and then developing a package for the automatic generation of a high quality TBox to be lately fed in to an LLM.



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