

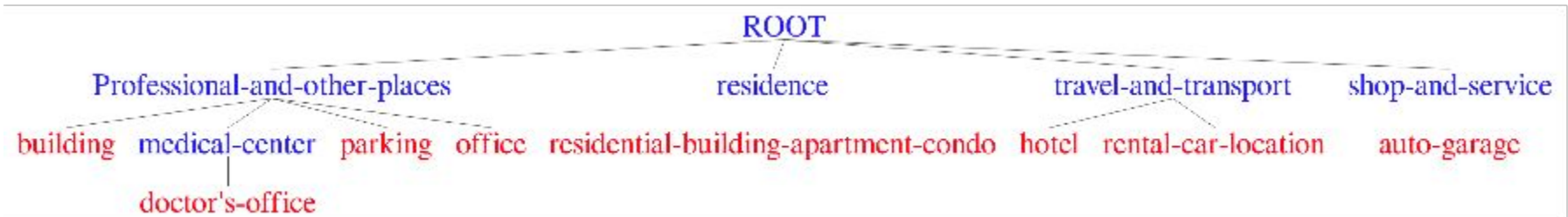
# ANLPIR-2017

Projects proposal

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# Semantic Tree Kernel for Urban Area Analysis

Location-based Social Networks (e.g. Foursquare) provide information about each places in a region. Thus, the most straightforward way to represent it is through the use of these POIs data. Every venue is hierarchically categorized (e.g., Professional and Other Places → Medical Center → Doctor's office) and the categories are used to produce a tree representation of the area.



The goal of this project is to exploit the use of the semantic tree kernel, applied on these structures, for urban area classification (e.g. commercial, residential etc.).

# Who are you? Personality prediction from social media texts.

- A person can be characterized in terms of 5 personality traits: Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism.
- Personality is strongly correlated with human behaviors and it represents a significative measure in order to describe the psychological traits that make a person unique.
- Personality has been shown to be related to many human characteristic, including writing style.

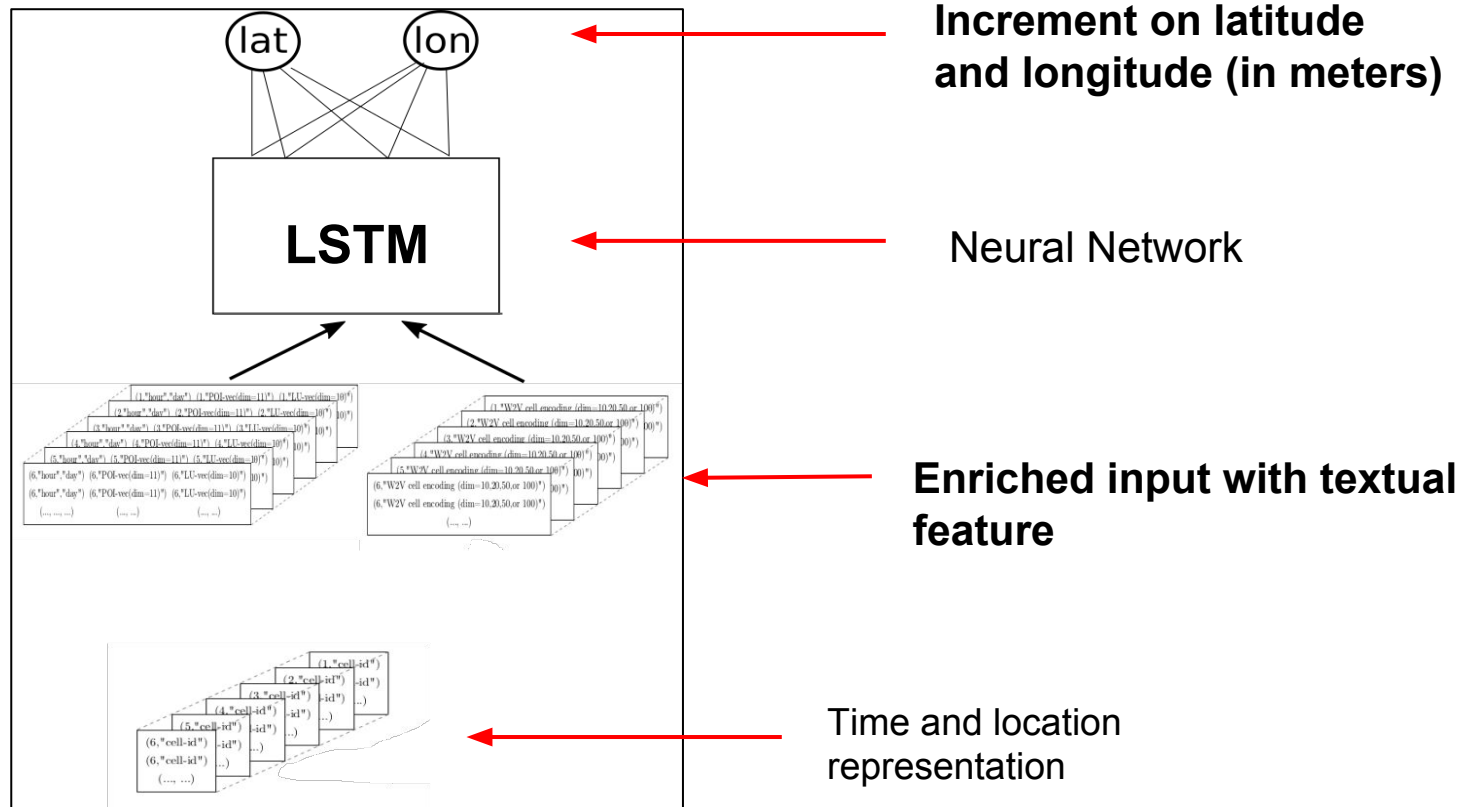
The goal of this project is to predict the user's personality using social media texts. In particular, the idea is based on the use of syntactic information that can be represented with tree kernel.

We will provide a unique Facebook dataset composed by:

- Users with its personality traits: 115.874
- Posts: 19.181.625

# Text and spatial data to predict human movements through LSTM

Extend our work on neural mobility prediction by including textual features and (eventually) expand the LSTM model. The parts in **bold** represent the core of the project



# **What is happening there? Understanding crowds in a city from text and mobility data**

Event detection by combining data from location-based social networks (e.g. Foursquare) and social media text (e.g. Tweets).

- Exploring twitter dataset for the city of New York
- Implements an event detector based on common statistical measures
- Use tweets text to classify the category of the event