Analyzing Arabic Social Media Content Using Transformers

**Project Description:** ASAD: Arabic Social media Analytics and unDerstanding (asad.qcri.org) is a system that provides a one stop shop for analyzing social media content. Main functionalities of Asad are:

- Detect unwanted content such as offensive language, hate speech, spam, etc.
- Give insights about the input text such as its sentiment, emotion, dialect, etc.
- Predict some demographic information about users such as gender and country.

The back-end of the system is based on multiple classifiers (ex: SVM) that give predictions for the user inputs. In recent years, Transformer models have become a de facto architecture for many NLP tools and pipelines. Models such as BERT are being used for text classification, similarity detection, semantic entailments and more. In this project, we aim to build a transformer model that can provide similar predictions while exploiting all the available training data in a joint fashion. Unified training and multi-class adaptation is an opportunity to dive deep in the Neural and machine learning sphere. Also, we study model stability and generalization.

**Project Type:** Research

**Duties/Activities:**

- Conduct literature review
- Analyze data
- Build and train machine learning models (using GPU and TPU accelerators)
- Annotate, test and benchmark models

**Required Skills:**

- Programming experience in Python
- Experience in data management, building classifiers, experimentation and evaluation

**Preferred Intern Academic Level:**

- Junior/Senior CS and IT majors.

**Learning Opportunities:** You will learn about content moderation to detect unwanted content on social media, understanding user input, and build systems to detect text and user information automatically.

**Expected Team Size:** 3-5 people

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