

Design of an internship recruitment platform employing NLP based technologies

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ABSTRACT

Natural language processing solutions are expected to revolutionize the quality of insight in hiring applications, but also in other areas such as employee feedback, surveys, appraisals, learning, legal cases, or counseling. With SoMeDi platform we introduce an innovative solution tailored for the Romanian HR sector advancing several DII (Digital Intelligence Interaction) tools developed using both cloud service frameworks and open-source NLP tools.



INTRODUCTION

NLP is defined as the capacity of a computer to understand and process human language. When tackling the immense possibilities that data mining, text analytics, sentiment analysis can offer we expect innovative solutions that can aid in digitalizing many of the business processes of today's economics.

RELATED WORK

Assessing the AI recruitment applications, the majority of talent acquisition use-cases appear to fall into three major categories:

1. Talent Recruitment: Repetitive aspects of a recruitment process can now be automated by using specific machine learning algorithms;
2. Talent Sourcing: Identifying the right candidate by using machine learning;
3. Candidate screening and Engagement: Artificial Intelligence assistants are being developed by companies and used for natural language processing.

METHODOLOGY

Typical full-text extraction for text mining/analytics includes: (i) extracting entities, (ii) categorizing content, (iii) clustering content, (iv) fact extraction – providing structured information for databases, and (v) relationship extraction.

SoMeDi platform architecture follows a classic two-component structure, a front-end interaction component, and a backend structure (Figure 1).

RESULTS

The company department uses automatic sentiment analysis as a way of digital interaction to find the candidate's view about the business activity. Once the Human Resources Officer submits to the candidate the various fields of activity of the company, the officer asks the candidate to write a few phrases about each field presented. The NLP back-end service automatically analyzes for each field the sentences written by the candidate and provides a score (Figure 2).

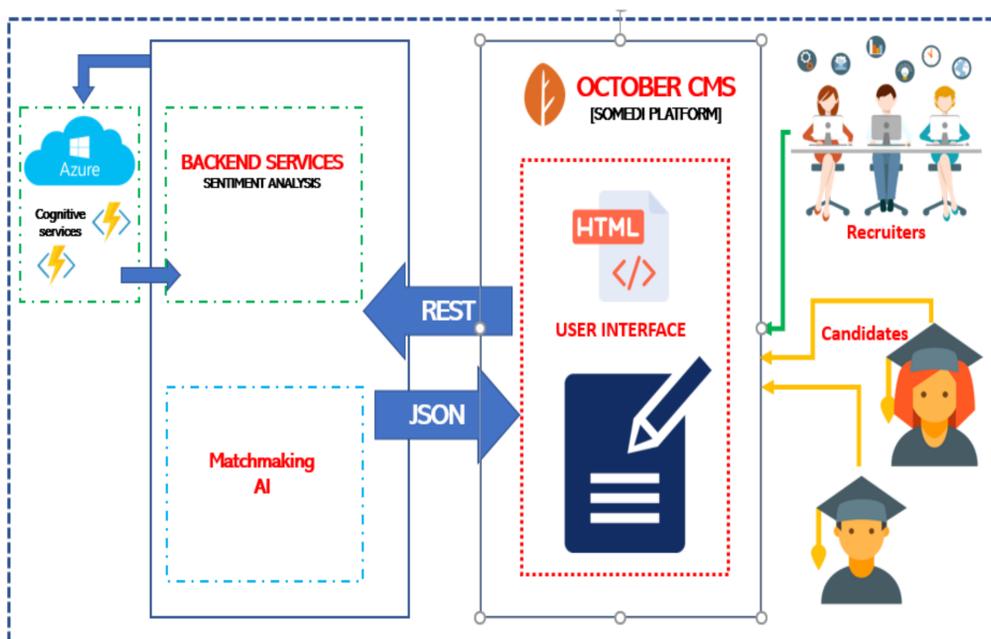


Figure 1. SoMeDi platform high-level architecture

Domain	Sentiment Score
Domain 1	0.888106226921082
Domain 2	0.881136417388916
Domain 3	0.0128898322582245
Domain 4	0.208665549755096

Figure 2. SoMeDi NLP backend service

CONCLUSIONS

- NLP can act as the first level of screening or aid human decisions in HR.
- SoMeDi advanced an experimental model for the sentiment analysis application.
- In the future we intend to implement the experimental application as a web application.

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