TOWARDS AN INTEGRATED RETRIEVAL SYSTEM TO SEMANTICALLY MATCH CVS, JOB DESCRIPTIONS AND CURRICULA.

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This article reports towards an approach on tackling the complex task of interconnecting job seekers, employers and educational agents in the current European labor market.

To perform this task, we implement an end-to-end service to parse resumes, job descriptions and open courses descriptions, retrieve information on the qualifications associated with the aforementioned, and semantically match them.

BRIDGING THE GAP

An AI-enabled versatile skill matching tool to assist the less privileged

The job market is continuously evolving. The specific occupations, skills, competences and qualifications that people need change over time, as does their description. To deal with this, effective and intelligent communication and information exchange between the job market and the education and training sector is vital. On the other hand, and from the perspective of the individual (job seeker), especially the less privileged there is a need for approaches that combine practical tools with motivation and mentoring support since skill-matching it is not enough, skill-building is also needed. In this context, the current approach follows a bottom-up methodology investigating the problem of formalizing the lifelong learning process in a dynamic and flexible way. On the other hand, this proposal utilizes a parallel top-down approach in applying semantics and standards upon data in order to alleviate the gap among individuals, workplaces and educational contexts for the benefit of all in a transparent way.

"Bridging the Gap – An AI-enabled versatile skill matching tool to assist the less privileged"

We implement an end-to-end service to parse resumes, job descriptions and open courses descriptions, retrieve information on the qualifications associated with the aforementioned, and semantically match them. The proposed implementation effectively detects the underlying information associated with those sources, and manages to inter- link job seekers' resumes to occupations and job vacancies, while being able to assign skill deficits to courses provided by educational agents. The performance of our implementation on CVs, job descriptions and course descriptions in English, Greek, Romanian and Bulgarian, indicate that our approach yields results on par with the state-of-the-art, however on a much larger scale: to the best of our knowledge, this is the first research work that engages with this task on three stakeholders (job seekers, employers, educational agents) and in four European languages.

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This article reports on the first goal of our project which is to scaffold candidates to match their professional profiles with digital learning resources and receive access to available content regarding their skills and external relevant knowledge from multiple courseware providers, investing on the linked data approach.

first goal: to scaffold candidates to match their professional profiles with digital learning resources, second goal: to provide intelligent agents in order to provide virtual mentoring to each jobseeker

Towards dealing with the issue such matching typically imposes the key challenge of having software systems talking to each other in a common language supported by semantics that understood from all sides. Hence, the ambition of the proposed approach is to focus on learning outcomes enhanced and annotated by semantics found in standard specifications to enhance competence-based matching. The European Skills/Competences, Qualifications and Occupations multilingual (ESCO) classification, when combined with IMS educational standards, provide a promising approach towards the solution of bridging gaps amongst individuals, jobs and teachers. On the other hand, we pay attention to skill building, hence, our approach includes a variety of artificial intelligence such as agent technology. In this context, the second goal, is to provide intelligent agents as-a-service (web accessed) in order to provide virtual mentoring to each individual jobseeker. This mentoring will use the knowledge bases and reasoning (inference machines) and will associate one (or more) agent to each individual. This agent will store knowledge and preferences even beliefs and desires of the individual and then it will provide guidelines for job opportunities or life-long training using the rest tools of the approach. To achieve the above objectives, we intend to further extend the proposed multi-step and multi-layered research approach.

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