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# A linguistic multi-criteria decision-aiding system to support university career services

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## Abstract

In this paper we introduce a linguistic multi-criteria decision-aiding model to support college students with the internship job market application. It considers a fuzzy ordered weighted averaging (FOWA) operator in the matching to capture the inherent uncertainty and vague nature of personnel selection processes. The decision model is integrated in a software tool able to capture data from university student resume and internship databases. The application assesses position characteristics implicitly by means of linguistic descriptions according to each student's preferences. The software tool is enabled with the ability to propose positions according to student preferences. The system selects a reduced list of alternatives from the set of job offers, helping students to decide on which positions to focus their applications.

*Keywords:* Decision support systems, Multi-criteria decision-aiding, Hesitant fuzzy linguistic terms, Fuzzy OWA operator, Personnel selection problem

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## 1. Introduction

Organizations are challenged daily to make complex decisions. These decisions can be subjective, uncertain, and imprecise [1]. As data becomes continually available, these decisions become increasingly more complex, making

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