Semantic Technologies for Expert Search

The OWLsome Team

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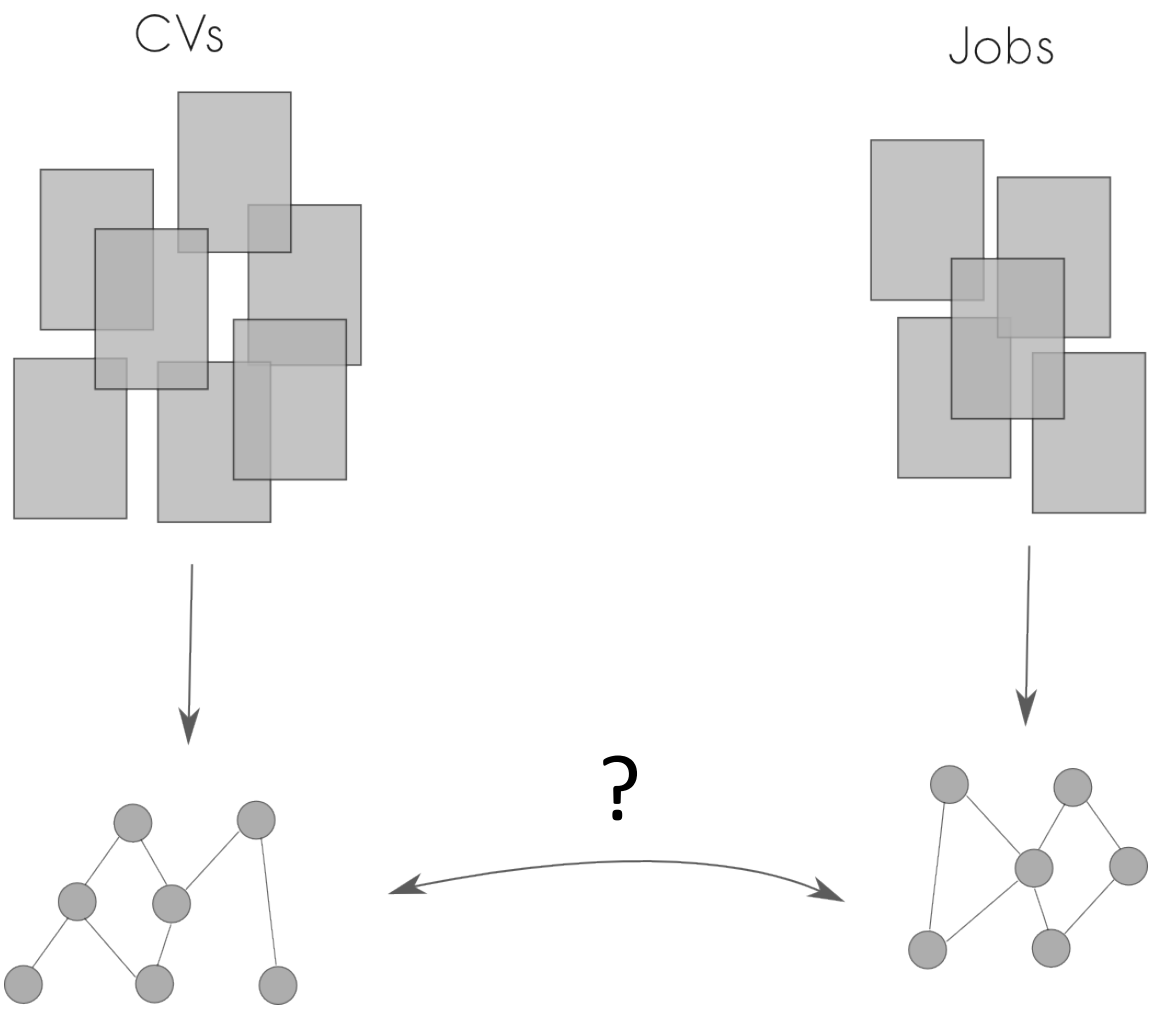
Motivation



The Matching Model

$$score(CV, Job) = \sum_p \alpha_p * sim_p(CV, Job)$$

$$\alpha_p = P(x|c_1 \wedge c_2 \wedge \ldots c_n)$$
$$\alpha_p = P(x_1 > x_2|c)$$

Conditions c_i:
- Inferred from personal CV
- Based on knowledge base
- Provided by person

Preferences x_j:
- Provided by job offer
- Provided by the user

$$sim_p(CV, Job) = \begin{cases} \text{scale of academic level} & \text{if } p \text{ is occupation} \\ 1/\text{geographical distance} & \text{if } p \text{ is location} \\ \text{graph similarity measure} & \text{if } p \text{ is skills} \\ \vdots & \vdots \end{cases}$$

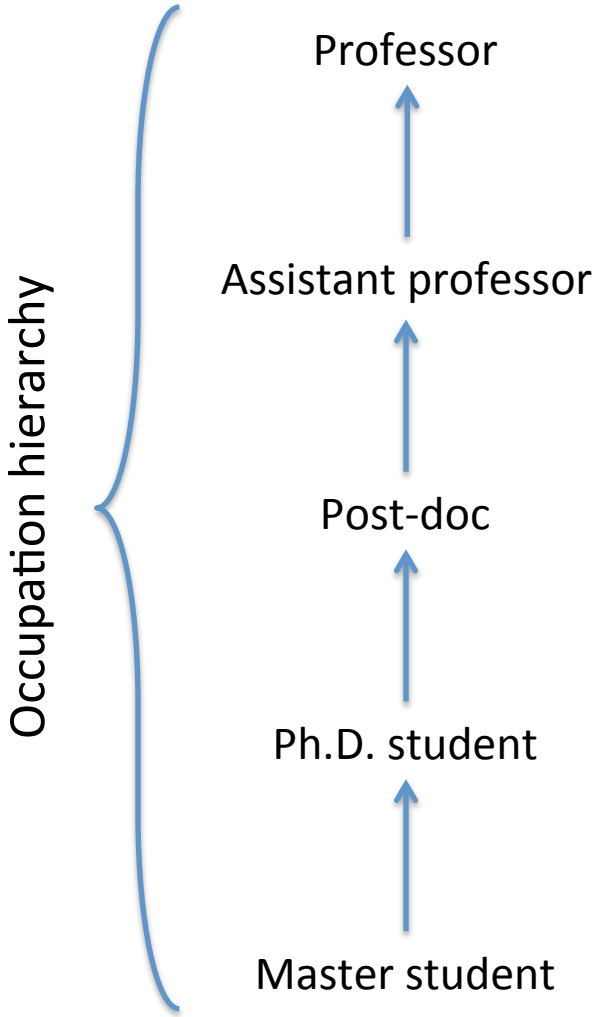
The calculation method for the similarity depends on the feature *p*.
- Graph based calculations
  - Taxonomies
  - Scales
  - Ontologies
  - LOD

Occupation

ENRICO

$$sim_{occ}(CV, Job) = \begin{cases} 1 & \text{if } CV_{occ} < Job_{occ} \\ 0.5 & \text{if } CV_{occ} = Job_{occ} \\ 0 & \text{if } CV_{occ} > Job_{occ} \end{cases}$$

$$\alpha_{occ} = P(x_{Job} > x_{CV} | c = \text{higher salary})$$



Location

Distance between locations is calculated by geo coordinates taken from DBPedia.

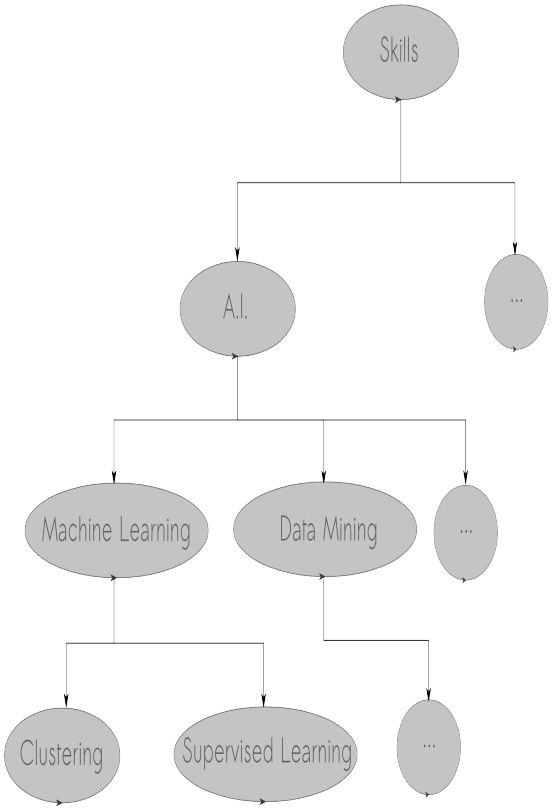
$$sim_{loc}(CV, Job) = \frac{1}{distance(CV_{loc}, Job_{loc})}$$

Information on local facilities is also taken from DBPedia

$$\alpha_{loc} = P(x_{Job} > x_{CV} | c = \text{very very good hair salon})$$

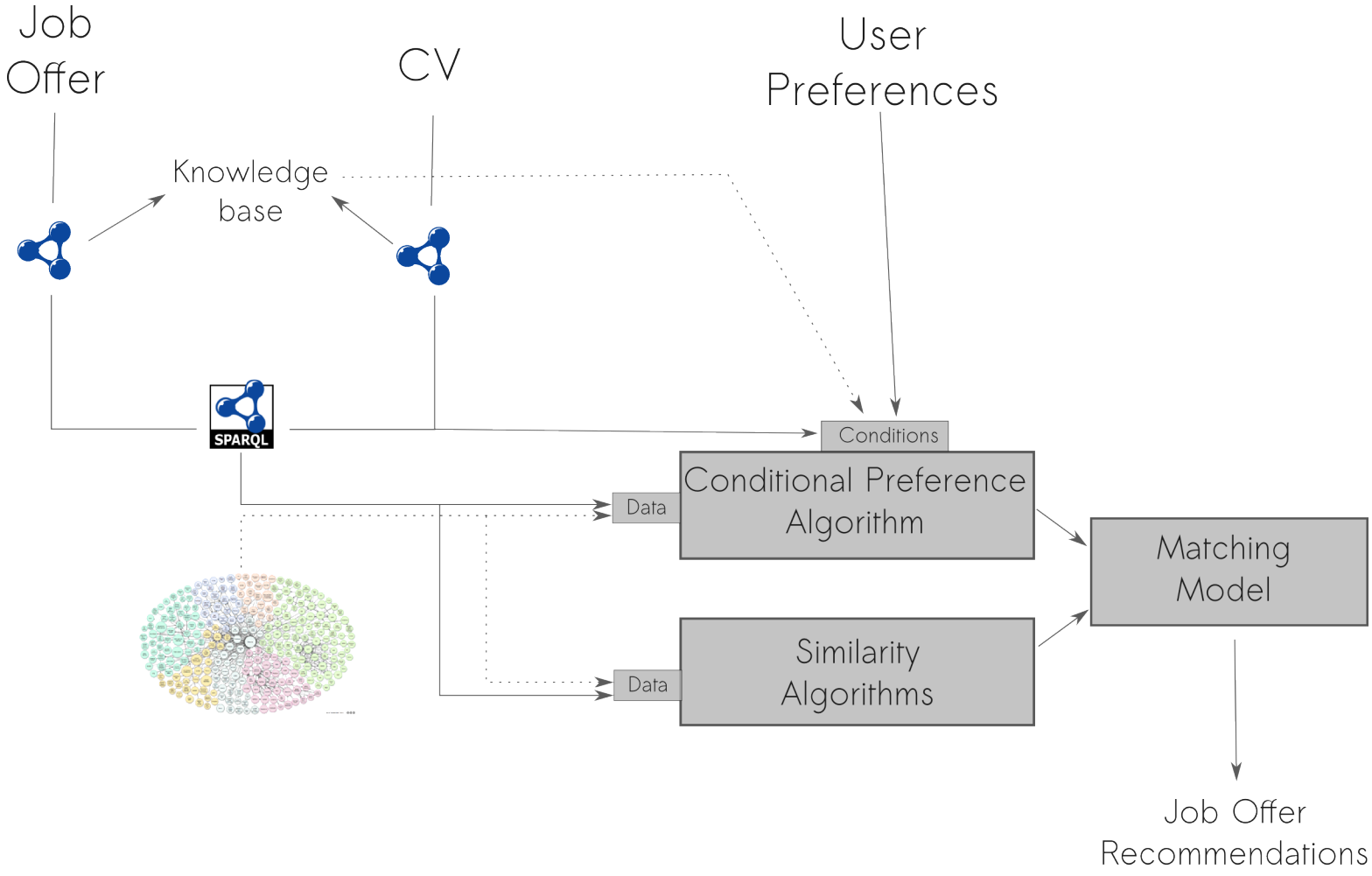
Skills

$$sim_{skill}(CV, Job) = GSM(CV_{skill}, Job_{skill})$$



$$\alpha_{skill} = P(x_{Job} > x_{CV} | c = \text{I want to expand my skills})$$

Architecture



Evaluation

Live Performance