Baidu team's paper describes their neural net approach to match job openings with candidates

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The word clouds of three latent dimensions of representation learned by PJFNN, where the size of each keyword is proportional to its probabilities. Credit: *ACM Transactions on Management Information Systems* (2018). DOI: 10.1145/3234465

One can say that software product types that travel at supersonic speed to consumers' beating hearts would have to put sites for dating, price-slashed sales alerts and jobs way up at the top. The latter has a new friend in Baidu.

Can a job opening be filled by the right candidate thanks to a machine, or should job seekers be assessed by a human?

You have most likely met her too, at least once in your job hunting experiences. She is the human resources professional who was especially good at the job. She scanned your resume, line by line, but also read between the lines.

She asked questions relevant to the job opening. She knew if you listed one kind of skill or tool you probably would have little difficulty with another skill or tool they would need to introduce.

Wow. Could a machine do her job? Well, maybe the question should rather be, can software help her make decisions for candidates that save her

time, and hit the mark?

We will definitely know more, as researchers work up job-matching tech for numerous online recruitment services. In fact, there are those who would argue that it is the human element that is more at risk of baking in bias and subjective thinking instead of clearly assessing the candidate to match the job's needs.

In the news is a neural net for matching resumes to descriptions in postings of job openings. Baidu is testing to see if their approach can effectively match job seekers to jobs. *MIT Technology Review*'s "The Download" checked out the Baidu teams' paper, where they presented their neural net that can work out, from résumés, the person who should be up for candidacy according to the skills that employers seek.

"Person-Job Fit: Adapting the Right Talent for the Right Job with Joint Representation Learning" is the paper that the researchers wrote to describe their work. Person-Job Fit could be a path to aligning the right job seekers to the right positions.

In discussing their proposed model, based on a neural network, they said the Person-Job Fit Neural Network (PJFNN) "can effectively learn the joint representation of Person-Job fitness from historical job applications."

Their model named as "Person-Job Fit Neural Network" leaves little guesswork as to what it does. Relevant job seekers are flagged. The authors are apparently quite positive about the PJFNN potential.

What's in it for Baidu? Motivation to get involved with employee-job matching technology on their part could satisfy their intent to grow business. How

so? "Since Baidu owns the world's second largest search engine, it's likely the company could use this technology to help better target job ads." That was the take in the "Download" posted by Erin Winick.

The dataset used in the experiments were job application records of a high-tech company in China, containing more than 2 million resumes and 15,039 job postings. There were only 31,928 successful job applications.

Caution has been expressed elsewhere, though, that their neural net approach is not perfect. Limitations include a possibility for bias. "If bias exists in previous hires, it can creep into systems like this, posing a disadvantage to certain groups that may not be presented with the same job opportunities," said "The Download."

The authors wrote that "Not all of the job requirements can be modeled well in PJFNN." Nonetheless, they said they thought that "although PJFNN cannot learn good representations for all of the requirements, the latent vectors of most resumes and job postings learned by PJFNN are meaningful generally and can help to improve the effectiveness and efficiency of Person-Job Fit."

 More information: Chen Zhu et al. Person-Job Fit, *ACM Transactions on Management Information Systems* (2018). DOI: 10.1145/3234465