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Learning Hiring Preferences - The AI Behind LinkedIn Jobs

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LinkedIn's Recommended Matches delivers candidate recommendations for your open job posting that get more targeted over time based on your feedback. This new algorithm, which is used throughout the Jobs platform, performs nearly 20% better than the previous version in generating recommendations when we simulate our members' past hiring activity. The technique we leverage to train the targeting to get smarter is called "online learning," which is learning that happens in real time as our members use the product. Based on how you interact with candidates, our algorithm learns your preferences and delivers increasingly relevant candidates across the Jobs product. If you're consistently interested in candidates who are, say, accountants with leadership skills, or project managers who are adept at social media, we'll send you more of those. And this all happens online in real time so that your feedback is taken instantly into account. This online learning-powered recommendation system uses signals such as the job description, candidates you've reached out to or archived, and members interested in jobs like yours to match the most suitable candidates to your open role. Interactions with an applicant versus interactions with a recommended match may be fundamentally different, and so we explicitly represent the channel in which the candidate was discovered in our machine learning model. This also gives us the ability to incorporate online learning from user feedback across additional channels outside our Jobs product in the future like Recruiter Search. Feedback about candidates is aggregated in real time and associated with the corresponding hiring project. A hiring project represents an opening to be filled, and may have a job post, search queries, candidate feedback, and other useful details associated with it. The aggregated information is utilized to produce features in our machine learning model. This aggregation is done at the hiring project-level so that we can learn a customer's preferences for the specific opening. The impact of these online learning features is profound. In fact, the online learning features are 7 of the top 10 most important features in the model. When comparing a model with online learning versus a model without online learning, we found that online learning features provide 49.61% lift in NDCG@1 (averaged over all search queries, with each search query generating one candidate recommendation).

Biography:

Nadeem Anjum graduated from Indian Insitute of Techology, Kharagpur in 2014. He is a Staff Machine Learning Engineer at LinkedIn, USA helping conenct recruiters to qualifed & interested job seekers. He has published mutiple papers & patents in organizations on repute.

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