

‘Predicting Work Outcomes Using Pre-Hire Work History: Who is Fit to Teach?’

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Henry Angus 968

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Abstract

Work history information reflected in résumés and job application forms is commonly used to screen job applicants; however, there is little consensus as to how to systematically translate information about one’s past into predictors of future work outcomes. Applying machine learning techniques, we develop measures of work experience relevance, tenure in previous positions, leaving jobs due to involuntary turnover, leaving jobs due to dissatisfaction, and leaving jobs to follow passion to predict subsequent process performance, outcome performance, voluntary turnover, and involuntary turnover. Machine learning enables us to enrich work history data by connecting applicants’ previous jobs to their occupational characteristics through the U.S. Department of Labor’s O*NET occupational information system. We empirically examine our model on a longitudinal sample of 16,071 applicants for public school teaching positions. About 15% of these applicants were hired. We find that work experience relevance and leaving jobs to follow passion are linked to positive work outcomes, whereas low tenure in previous jobs and leaving jobs due to dissatisfaction were associated with negative outcomes. We also quantify the extent to which our model can improve the quality of selection process relative to conventional methods of assessing work history, while lowering the risk of adverse impact.

Bio

Sima Sajjadiani is a Ph.D. candidate in the Department of Work and Organizations at the Carlson School of Management, University of Minnesota. Her research focuses on work and employment relations from a multi-disciplinary perspective, drawing on organizational psychology and personnel economics. Sima’s research interests include compensation, employee selection, turnover, and the application of machine learning techniques in human resource management. Her work in these areas has resulted in a publication in *Industrial and Labor Relations Review* and several working papers. Sima holds a BS in electrical engineering, an MBA, and an MA in human resources and industrial relations.