# SHUO ZHANG

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## EDUCATION

**University of California, Santa Barbara**

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|---|---:|
| Ph.D., Economics | *(expected) June 2022* |
| M.A., Statistics (Specialized in Data Science) | *June 2020* |
| M.A., Economics | *June 2016* |

**Tsinghua University**

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|---|---:|
| B.A., Economics; Law | *July 2015* |

## RESEARCH INTERESTS

Labor Economics, Behavioral Economics, Applied Econometrics

## JOB MARKET PAPER

**Measuring Algorithmic Bias in Job Recommender Systems: An Audit Study Approach**

*Abstract*: This paper investigates gender bias in job recommender systems. By conducting an algorithm audit in four Chinese job boards, I find that gender-specific jobs, which are only displayed to one gender, account for 9.72% of the total recommended jobs to identical male and female applicants. Gender-specific jobs differ in both the job's explicit quality and the words used in job descriptions: Compared to jobs that are only recommended to men, only-to-women jobs propose lower wages, request fewer years of working experience, are more likely to require literacy skills and administrative skills, and tend to contain words related to feminine personality, which reflect gender stereotypes in the workplace. Item-based collaborative filtering, content-based recommendation algorithms and the hiring agents' behaviors incorporated in job recommender systems are the possible drivers of the gender bias in job recommendations.

## PUBLICATIONS

**Gender-targeted Job Ads in the Recruitment Process: Facts from a Chinese Job Board**, with Peter Kuhn and Kailing Shen, *Journal of Development Economics 147 (2020): 102531*

*Abstract*: We study how explicit employer requests for applicants of a particular gender enter the recruitment process. Using internal data from a Chinese job board, we estimate that an explicit request for men raises men's share in the applicant pool by 14.6 percentage points, or 26.4%; requests for women raises the female applicant share by 24.6 percentage points, or 55.0%. Men (women) who apply to gender-mismatched jobs also experience a substantial call-back penalty of 24 (43) percent.

**Words Matter Life: The Effect of Language on Suicide Behavior**, with Donald Lien, *Journal of Behavioral and Experimental Economics 86 (2020): 101536*

*Abstract*: This paper explores the relationship between future time reference (FTR) in language

and suicide behavior on both country level and individual level and provides a new source to explain the huge variation of suicide behaviors across countries.

## WORKING PAPERS

**Should I Show or Should I Hide–When Do Jobseekers Reveal Their Wages?** with Peter Kuhn, Taoxiong Liu and Kebin Dai.
*Abstract*: This paper investigates the role of workers' voluntary wage disclosure in the job search process. Using internal data from an online job board, we find that on average, workers' disclosure decisions are consistent with a model in which high current wages are seen as "good news" by prospective employers: Workers are more likely to disclose their wages when those wages are higher than might be expected, based on the worker's resume and application behavior. Employers' responses to workers' resumes, however, are hard to reconcile with these disclosure patterns: While employers do respond positively to workers with higher current wages, they do so equally, regardless of whether the worker has disclosed her wages. This suggests that firms can infer the unobserved ability associated with a worker's current wages from other aspects of her resume and application behavior. Further, disclosing one's current wage –regardless of its level– appears to reduce firm's interests in hiring that worker.

**TwoWayFEWeights: Estimation of the Weights Attached to the Two-Way Fixed Effects Regressions**, with Clément de Chaisemartin.
*Abstract*: Linear regressions with period and group fixed effects are widely used to estimate treatment effects in social and environmental sciences. However, those regressions estimate weighted sums of the treatment effect in every treated group×period, potentially with some negative weights. Owing to the negative weights, the treatment coefficient in those regressions may for instance be negative while the treatment effect is positive in every group×period (de Chaisemartin and D'Haultfœuille, 2020). This paper presents an R package, TwoWayFEWeights, that enables researchers to compute the weights attached to their regression, and assess its robustness. We also use TwoWayFEWeights to revisit an empirical application.

## WORK IN PROGRESS

**Congestion, Competition and Matching in Online Job Boards**, with Taoxiong Liu and Simin Yuan.

**How Does US-China Trade War Affect the Middle- and High-income Employment in China?** with Lizi Yu.

## OTHER PROJECTS

**R Package Development**: *DIDmultiplegt*, *TwoWayFEWeights*

## ACADEMIC EXPERIENCE

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|---|---|
| Research Assistant to Peter Kuhn | *2017-2018* |
| Research Assistant to Clément de Chaisemartin | *2020-2021* |

## TEACHING EXPERIENCE

**Teaching Assistant, University of California, Santa Barbara**

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|---|---|
| Intermediate Microeconomic Theory | *2020* |
| Introduction to Econometrics | *2019* |
| Personnel Economics | *2018* |

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| Financial Management | *2017* |
| Principles of Economics-Microeconomics | *2016* |
| Principles of Economics-Macroeconomics | *2015* |

## HONORS AND FELLOWSHIPS

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| Summer Fellowship, UCSB | *2021* |
| UCOP Diversity RAship, UCSB | *2020* |
| Departmental Research Funding, UCSB | *2020* |
| White Family Graduate Fellowship, UCSB | *2019* |
| National Scholarship, THU | *2014* |

## SKILLS

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| **Programming** | R (package developer), Stata, Python, SAS, SQL (basic) |
| **Language** | Mandarin Chinese (native), English (fluent) |

## REFERENCES

| | | |
|---|---|---|
| Placement Director: | Sevgi Yuksel | `E-mail:`sevgi.yuksel@ucsb.edu |
| Graduate Administrator: | Mark Patterson | `E-mail:`mark.patterson@ucsb.edu |

| **Peter Kuhn** | **Kelly Bedard** | **Clément de Chaisemartin** |
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