

RENZHE YU

renzhey@uci.edu \diamond renzheyu.com

EDUCATION

| | |
|---|-----------------|
| Ph.D., Educational Data Science , University of California, Irvine | 2022 (Expected) |
| M.A., Economics of Education , Peking University | 2017 |
| B.S., Artificial Intelligence, B.A., Economics , Peking University | 2014 |

RESEARCH INTERESTS

Computational Social Science
Data Science for Social Good
Learning Analytics
Higher Education
Ethics of Artificial Intelligence

PROFESSIONAL EXPERIENCE

| | |
|---|--------------|
| Graduate Student Researcher , <i>UC Irvine</i> | 2018–present |
| Next Generation Undergraduate Success Measurement Project (PI: Richard Arum) | |
| Investigating Virtual Learning Environments (PI: Mark Warschauer) | |
| Research Intern , <i>Science for Social Good, IBM Research</i> | 2020 |
| Data-Driven Understanding of Education-Occupation Gaps (Mentor: Kush Varshney) | |
| Summer Fellow , <i>Data Science for Social Good, Alan Turing Institute</i> | 2019 |
| Understanding and Reducing Transport Inequities in the West Midlands | |
| Visiting Researcher , <i>UC Berkeley</i> | 2018 |
| Modeling Online Collaborative Learning Behavior (Mentor: Zachary Pardos) | |
| Graduate Student Researcher , <i>Peking University</i> | 2014–17 |
| Education Finance in the Digital Era (PI: Rong Wang) | |
| Housing, School Choice and School Finance Reform in Urban Areas (PI: Wei Ha) | |

AWARDS, HONORS & FELLOWSHIPS

Paper Awards

| | |
|--|------|
| Best Paper Nomination, <i>ACM Conference on Learning at Scale (L@S)</i> | 2021 |
| Best Paper Honorable Mention, <i>AERA Educational Data Science Conference</i> | 2020 |
| Best Paper Award, <i>International Conference on Educational Data Mining (EDM)</i> | 2018 |

Research Recognition

| | |
|---|---------|
| David P. Gardner Fellow, <i>Center for Studies in Higher Education, UC Berkeley</i> | 2021–22 |
| Science for Social Good Fellow, <i>IBM Research</i> | 2020 |
| Outstanding Research Award, <i>Ministry of Education of China</i> | 2020 |
| Data Science for Social Good Fellow, <i>Alan Turing Institute</i> | 2019 |
| Outstanding Research Award, <i>National Forum on Empirical Education Research</i> | 2018 |

Selective Events

| | |
|--|------|
| Participant, <i>Summer Institute in Computational Social Science, Princeton University</i> | 2021 |
| Doctoral Colloquium Participant, <i>ACM Conference on Fairness, Accountability, and Transparency (FAccT)</i> | 2021 |
| Presenter, <i>Early Career Cross-Community Young Researcher's Event, London Festival of Learning</i> | 2018 |
| Graduate Student Scholarship, <i>LearnLab Summer School, Carnegie Mellon University</i> | 2018 |
| Travel Grant for Graduate Students, <i>Peking University</i> | 2016 |

General

| | |
|--|----------|
| Graduate Dean's Fellowship (\$5,000), <i>UC Irvine</i> | 2017 |
| Outstanding Graduate, <i>Peking University</i> | 2017 |
| Leo KoGuan Scholarship, <i>Peking University</i> | 2016 |
| Merit Student, <i>Peking University</i> | 2016 |
| May 4th Scholarship, <i>Peking University</i> | 2013, 15 |
| Academic Scholarship for Graduate Students, <i>Peking University</i> | 2014–15 |
| Leadership Scholarship, <i>Peking University</i> | 2014 |
| Suzhou Industrial Park Scholarship, <i>Peking University</i> | 2012 |

PUBLICATIONS

* *corresponding author* † *undergraduate mentee*
% *acceptance rate, where available*

Referred Conference Proceedings

20. **Yu, R.**, Das, S., Gurajada, S., Varshney, K., Raghavan, H., & Lastra-Anadon, C. (2021). A Research Framework for Understanding Education-Occupation Alignment with NLP Techniques. In *Proceedings of the 1st ACL Workshop on NLP for Positive Impact* (pp. 100–106).
19. **Yu, R.**, Lee, H., & Kizilcec, R. (2021). Should College Dropout Prediction Models Include Protected Attributes? In *Proceedings of the 8th ACM Conference on Learning at Scale (L@S '21)* (pp. 91–100). [**30%**]

• Best Paper Nomination

18. Li, X., & **Yu, R.** (2021). Construction of Weighted Course Co-Enrollment Network. In *Proceedings of the LAK Workshop on Using Network Science in Learning Analytics: Building Bridges towards a Common Agenda (NetSciLA '21)* (pp. 23–28).
17. †Kung, C., & **Yu, R.** (2020). Interpretable Models Do Not Compromise Accuracy or Fairness in Predicting College Success. In *Proceedings of the 7th ACM Conference on Learning at Scale (L@S '20)* (pp. 413–416).
16. **Yu, R.**, Li, Q., Fischer, C., Doroudi, S., & Xu, D. (2020). Towards Accurate and Fair Prediction of College Success: Evaluating Different Sources of Student Data. In *Proceedings of the 13th International Conference on Educational Data Mining (EDM '20)* (pp. 292–301). [**18.5%**]
15. Lin, Y., **Yu, R.**, & Dowell, N. (2020). LIWCs the Same, Not the Same: Gendered Linguistic Signals of Performance and Experience in Online STEM Courses. In *Proceedings of the 21st*

International Conference on Artificial Intelligence in Education (AIED '20) (pp. 333–345). [26.6%]

14. **Yu, R.**, Pardos, Z., & Scott, J. (2019). Student Behavioral Embeddings and Their Relationship to Outcomes in a Collaborative Online Course. In *Joint Proceedings of the Workshops of the 12th International Conference on Educational Data Mining (EDM '19)* (pp. 23–29).
13. Rodriguez, F., **Yu, R.**, Park, J., Rivas, M., Warschauer, M., & Sato, B. (2019). Utilizing Learning Analytics to Map Students Self-Reported Study Strategies to Click Behaviors in STEM Courses. In *Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK '19)* (pp. 456–460). [32%]
12. **Yu, R.** (2019). Deconstructing the Evolution of Collaborative Learning Networks. In *Companion Proceedings of the 9th International Conference on Learning Analytics & Knowledge (LAK '19)* (pp. 741–745).
11. Park, J., **Yu, R.**, Rodriguez, F., Baker, R., Smyth, P., & Warschauer, M. (2018). Understanding Student Procrastination via Mixture Models. In *Proceedings of the 11th International Conference on Educational Data Mining (EDM '18)* (pp. 187–197). [16%]

- **Best Paper Award**

10. **Yu, R.**, Jiang, D., & Warschauer, M. (2018). Representing and Predicting Student Navigational Pathways in Online College Courses. In *Proceedings of the 5th ACM Conference on Learning at Scale (L@S '18)*.
 - Spotlitged at the *Early Career Cross-Community Young Researcher's Event* at London Festival of Learning (Sponsored by NSF)

Journal Articles

9. Moeller, J., von Keyserlingk, L., Spengler, M., Gaspard, H., Lee, H., Yamaguchi-Pedroza, K., **Yu, R.**, Fischer, C., & Arum, R. (Accepted). Risk and Protective Factors of College Students Psychological Well-being During the COVID-19 Pandemic: Emotional Stability, Mental Health, and Household Resources. *AERA Open*.
8. Umarji, O., Day, S., Xu, Y., Zargar, E., **Yu, R.**, & Connor, C. (2021). Opening the Black Box: User-Log Analyses of Childrens E-Book Reading and Associations with Word Knowledge. *Reading and Writing*, 34(3): 627–657.
7. Baker, R., Xu, D., Park, J., **Yu, R.**, Li, Q., Cung, B., Fischer, C., Rodriguez, F., Warschauer, M., & Smyth, P. (2020). Clickstream Data in Educational Research: Opening the Black Box of Learning Processes. *International Journal of Educational Technology in Higher Education*, 17:13.
6. Fischer, C., Pardos, Z., Baker, R. S., Williams., J. J., Smyth, P., **Yu, R.**, Slater, S., Baker, R., & Warschauer, M. (2020). Mining Big Data in Education: Affordances and Challenges. *Review of Research in Education*, 44(1): 130–160.
5. Ha, W., & **Yu, R.** (2019). Quasi-Experimental Evidence of a School Equalization Reform on Housing Prices in Beijing. *Chinese Education & Society*, 52(3-4): 162–185.
4. Ha, W., & **Yu, R.** (2017). How Much Is An Improved School Worth? Evidence from the Comprehensive Reform in Compulsory Education in Beijing. *Peking University Education*

Review, 15(03): 137–153.

- **Outstanding Research Award** from the *Ministry of Education of China*
- **Outstanding Research Award** from *China's National Forum on Empirical Education Research*

3. Ha, W., Wu, H., & **Yu, R.** (2015). A New Research on the Capitalization of School Quality in Housing Prices: An Empirical Study Based on Repeated Cross-sectional Data in Beijing. *Education & Economy*, 05: 3–10.

Preprints and Reports

2. Lastra-Anadon, C., Das, S., Varshney, K., Raghavan, H., & **Yu, R.** (2021). *How Universities Can Mind the Skills Gap. Higher Education and the Future of Work*. Center for the Governance of Change, IE University.
1. **Yu, R.**, Scott, J., & Pardos, Z. (2021). *Unsupervised Representations Predict Popularity of Peer-Shared Artifacts in an Online Learning Environment*. ArXiv.

PRESENTATIONS

Invited Talks and Panels

| | |
|---|------|
| Colloquium on the Impact of AI on Ethics and Social Justice in Education (Panelist) <i>Rice University</i> | 2021 |
| Using Data Science to Support Success and Equity in Higher Education <i>IBM Research – Almaden Lab</i> | 2021 |
| Using Campus Data Analytics to Support Student Achievement and Equity at Scale <i>Digital Learning Lab, UC Irvine</i> | 2021 |
| Data-Driven Understanding of Education-Occupation Gaps <i>IBM Research</i> | 2020 |
| Towards Accurate and Fair Prediction of College Success: Evaluating Different Sources of Student Data <i>eLearning Research and Practice Lab, Indiana University</i> | 2020 |
| Predicting College Success: What Data Are Useful and for Whom? <i>Future of Learning Lab, Cornell University</i> | 2019 |
| Accuracy and Fairness of Predictive Analytics in Higher Education <i>Educational Technology Collective, University of Michigan</i> | 2019 |

Conferences

| | |
|--|---------|
| <i>International Conference on Computational Social Science (IC2S2)</i> | 2020–21 |
| <i>AI for Social Good Workshop (at IJCAI)</i> | 2021 |
| <i>AERA Educational Data Science Conference</i> | 2020 |
| <i>Mechanism Design for Social Good Workshop (MD4SG)</i> | 2020 |
| <i>Annual Meeting of the American Educational Research Association (AERA)</i> | 2019–20 |
| <i>Directors of Educational Technology / California Higher Education Annual Meeting</i> | 2019 |
| <i>Workshop on Team and Group Diversity at the 22nd ACM Conference on Computer-Supported</i> | |

| | |
|---|---------|
| <i>Cooperative Work and Social Computing (CSCW)</i> | 2019 |
| <i>Digital Learning in the Humanities and Beyond Symposium</i> | 2018 |
| <i>Annual Conference of the Association for Education Finance and Policy (AEFP)</i> | 2016–17 |
| <i>Annual Fall Research Conference of the Association for Public Policy Analysis and Management (APPAM)</i> | 2016 |
| <i>Young Scholars' Forum on Public Economics</i> | 2015 |
| <i>China's Annual Conference on Economics of Education</i> | 2015 |

TEACHING

| | |
|---|--------------------------|
| <i>UC Irvine</i> | |
| INF4MATX 199: Educational Data Science Practicum (Instructor) | Winter 2021, Spring 2021 |
| EDUC 30: 21st Century Literacies (Guest Lecturer) | Fall 2019 |
| EDUC 30: 21st Century Literacies (TA) | Spring 2019 |
| EDUC 10: Educational Research Design (TA) | Winter 2019 |
| R Workshop for Educational Data Science (Co-Instructor) | Winter 2019 |
| <i>Peking University</i> | |
| State and Education (Graduate-level) (TA) | Spring 2016 |
| Advanced Econometrics (Graduate-level) (TA) | Spring 2016 |

ACADEMIC SERVICE

Conference Organization

| | |
|---|------|
| Mentorship Co-chair, <i>ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)</i> | 2021 |
| Co-chair, <i>Workshop on Fairness, Accountability, and Transparency in Educational Data Mining (FATED)</i> | 2020 |
| Organizer, <i>Digital Learning in the Humanities and Beyond Symposium</i> | 2018 |

Program Committee / Manuscript Review

| | |
|--|----------|
| <i>International Learning Analytics & Knowledge Conference (LAK)</i> | 2020–22 |
| <i>IEEE Transactions on Learning Technologies</i> | 2021 |
| <i>AERA Open</i> | 2021 |
| <i>ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)</i> | 2021 |
| <i>Journal of Learning Analytics</i> | 2020 |
| <i>ACM Conference on Human Factors in Computing Systems (CHI)</i> | 2019, 21 |
| <i>ACM Conference on Learning at Scale (L@S)</i> | 2018–19 |
| <i>International Conference on Educational Data Mining (EDM)</i> | 2019 |
| <i>International Conference of the Learning Sciences (ICLS)</i> | 2018 |

Others

| | |
|--|--------------|
| Mentoring Program Lead, <i>Mechanism Design for Social Good (MD4SG)</i> | 2021–present |
| Volunteer, <i>ACM Conference on Fairness, Accountability, and Transparency (FAccT)</i> | 2021 |
| PhD Recruitment Student Buddy, <i>UC Irvine School of Education</i> | 2020 |
| Organizer, <i>UC Irvine Learning Analytics Group</i> | 2019 |
| Search Committee Member, <i>Asst/Assoc Professor of Learning Analytics, UC Irvine</i> | 2018 |
| Vice President, <i>IEEE Peking University Student Branch</i> | 2012 |

MEDIA COVERAGE

Testing AI Fairness in Predicting College Dropout Rate. *Cornell Chronicle*, June 2021

Questioning the Role of AI in Exam Marking. *Raconteur*, April 2021

Good Grades, Stressed Students. *The Chronicle of Higher Education*, March 2021

As the Pandemic Upends Higher Education, Is Residential College Worth the Cost? *PBS News Hour*, July 2020