

# Pengda Wang

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## Education

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### Rice University

*Ph.D. in Industrial Organizational Psychology*

GPA: Psychology: 4.0/4.0

Houston, TX

*Anticipated: May 2028*

### Rice University

*M.A. in Industrial Organizational Psychology; Qualifying Exams*

GPA: Psychology: 4.0/4.0

Houston, TX

*Oct 2025*

**Master Thesis:** *“I’ve read your stories, I know who you are”: Reliability, validity, and interpretability of generative AI personality ratings*

Committee Members: Dr. Frederick L. Oswald (Chair), Dr. Tianjun Sun, Dr. Hanjie Chen

### University of Minnesota – Twin Cities

*B.S. in Psychology; B.A. in Computer Science*

GPA: Psychology: 3.9/4.0; Computer Science: 4.0/4.0

Minneapolis, MN

*Sep 2019 – May 2023*

## Research Interests

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1. Personnel selection (e.g., faking, bias, selection experience, ML applications, responsible AI use).
2. Individual differences (e.g., personality traits and facets, dark personalities, social behaviors).
3. Psychometrics & Research methods (e.g., SEM, IRT, computational measurement, big data approaches).
4. Cross-cultural psychology (e.g., measurement invariance, tech-based/large-scale assessments).

## Awards & Honors

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### SIOP Machine Learning Competition Winner (Top 4) (2026)

*Society for Industrial and Organizational Psychology*

### Kenneth R. Laughery Award for Best Master’s Thesis (2026)

\$300

*Rice University*

### CIISR Graduate Research Fellowship (2025)

\$1,500

*Rice University*

### Mortensen Research Award & CLA Research Scholarship (2023)

\$1,500

*University of Minnesota*

## Research Grants

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### Funded

#### Industry Sponsored Research Grant, Rice University Athletics Partner, 2025–2026

\$280,394

*Topic: High-performance sports psychology assessment.*

*Student PI*

Faculty PI: Tianjun Sun

#### OpenAI Researcher Access Program, OpenAI, 2024–2025

\$5,000

*Topic: LLM emulation of human personality traits.*

*Student PI*

Faculty Co-PIs: Tianjun Sun, Hanjie Chen, Ziang Xiao, Frederick L. Oswald

### Not Funded

#### SIOP Small Research Grant, SIOP Foundation, 2026

\$10,000

*Topic: Psychometric properties of multimodal large language model-based performance.*

*Student PI*

Faculty Co-PIs: Lennie Waite, Tianjun Sun

Finalist

#### Google AI for Privacy, Safety, and Security Research Award, Google LLC, 2026

\$100,000

*Topic: AI system persuasiveness and addictiveness.*

*Student Co-PI*

Faculty Co-PIs: Hanjie Chen, Tianjun Sun; Student Co-PIs: Haotian Xia, Pengda Wang

#### NeurIPS AI4Science Dataset Proposal Competition, Renaissance Philanthropy, 2025

\$10,000

*Topic: Multimodality individual differences dataset.*

*Student PI*

Faculty Co-PIs: Tianjun Sun, Ziang Xiao

## Refereed Publications

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1. **Wang, P.**, Chen, H., Oswald, F. L., & Sun, T. (in press). Modeling individual language patterns and psychological constructs to generate AI-augmented data for scalable psychological assessment. *Assessment*.
2. **Wang, P.**, Zou, H., Jiang, H., Chen, H., Sun, T., Yi, X., Xiao, Z., & Oswald, F. L. (2026). Generative personality simulation via theory-informed structured interview. *European Chapter of the Association for Computational Linguistics (EACL)*. <https://doi.org/10.18653/v1/2026.eacl-long.82>
3. Zou, H., **Wang, P.**, Yan, Z., Sun, T., & Xiao, Z. (2025). Can LLM “self-report”? Evaluating the validity of self-report scales in measuring personality design in LLM-based chatbots. *Conference on Language Modeling (COLM)*. <https://doi.org/10.48550/arXiv.2412.00207>
4. **Wang, P.**, Loignon, A. C., Shrestha, S., Banks, G. C., & Oswald, F. L. (2025). Advancing organizational science through synthetic data: A path to enhanced data sharing and collaboration. *Journal of Business and Psychology*, 40(4), 771–797. <https://doi.org/10.1007/s10869-024-09997-w> [**Editor Commendation (top 22 out of 1600 articles)**]
5. **Wang, P.**, Myeong, H., & Oswald, F. L. (2024). On putting the horse (raters and criteria) before the cart (variance components in ratings). *Industrial and Organizational Psychology*, 17(3), 309–313. <https://doi.org/10.1017/iop.2024.16>
6. **Wang, P.\***, Xiao, Z.\*, Chen, H., & Oswald, F. L. (2024). Will the real Linda please stand up. . . To large language models? Examining the representativeness heuristic in LLMs. *Conference on Language Modeling (COLM)*. <https://doi.org/10.48550/arxiv.2404.01461> [**Oral spotlight presentation (top 2%)**]
7. Myeong, H., **Wang, P.**, & King, E. B. (2024). The weight of beauty in psychological research. *Industrial and Organizational Psychology*, 17(1), 111–114. <https://doi.org/10.1017/iop.2023.87>

## Chapters & Technical Reports

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1. Sun, T., Xi, M., Sylvara, A., **Wang, P.**, & Ortiz, N. (forthcoming). Artificial intelligence conversational agents at work. In L. Tay, S. E. Woo, & Chekili, A. (Eds.), *AI and the future of work: Insights from organizational psychology and beyond*. Wiley.
2. Pitcher, B. D., & **Wang, P.** (2026). An introduction to explainable artificial intelligence applications for industrial-organizational psychology. In Thompson, I., Yankov, G., & Hernandez, I. (Eds.), *Artificial Intelligence for I-O Psychologists: Research and Applications*. Oxford University Press. <https://doi.org/10.1093/9780197807309.001.0001>

## Manuscripts Under Revision & Review

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1. **Wang, P.**, Chen, H., Luo, J., Oswald, F. L., & Sun, T. (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: Linking life narratives to dispositional traits via AI]. *Journal of Personality and Social Psychology*.
2. **Wang, P.**, Ortiz, N., Zou, H., Yan, Z., Guo, F., Sun, T., Xiao, Z., & Zhang, B. (1<sup>st</sup> revise & resubmit). TITLE REMOVED FOR BLIND REVIEW. [Topic: Compare large language models vs. human respondents for psychometric research]. *Psychological Methods*.
3. Jia, Z., Lee, P., & **Wang, P.** (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: Automatic scale development]. *Organizational Research Methods*.
4. Sylvara, A., **Wang, P.**, Sun, T., Heimann, A. L., & Ingold, P. V. (2<sup>nd</sup> revise & resubmit). TITLE REMOVED FOR BLIND REVIEW. [Topic: AI chatbot personality-based employment interview]. *Journal of Occupational and Organizational Psychology*.
5. Xuan, K., **Wang, P.**, Yu, H., August, T., & You, J. (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: High fidelity social interaction environment for multi-agents evaluation]. *COLM 2026*.

6. Yan, Z., Li, Y., **Wang, P.**, Chu, C., Sun, T., Zhang, B., & Xiao, Z. (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: Reliability and validity in Human-Computer Interaction research measurements]. *ACM Transactions on Computer-Human Interaction*.

## Selected Pre-prints

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1. Xuan, K., **Wang, P.**, Ye, C., Yu, H., August, T., & You, J. (2026). SocialVeil: Probing social intelligence of language agents under communication barriers. *arXiv (Cornell University)*. <https://doi.org/10.48550/arXiv.2602.05115>
2. Yan, Z., Sylvara, A., **Wang, P.**, Sun, T., & Xiao, Z. (2025). Personality auto-scoring with large language models using a realistic accuracy model of behavioral cues in chatbot interviews. *PsyArXiv*. [https://doi.org/10.31234/osf.io/rtsm5\\_v1](https://doi.org/10.31234/osf.io/rtsm5_v1)
3. Jiang, H.\*, **Wang, P.\***, Yi, X., Xie, X., & Xiao, Z. (2025). The incomplete bridge: How AI research (mis)engages with psychology. *arXiv (Cornell University)*. <https://doi.org/10.48550/arXiv.2507.22847>
4. Sylvara, A., **Wang, P.**, Sun, T., Heimann, A. L., & Ingold, P. V. (2025). Automating personality-based employment interviews: Development and validation of an artificial intelligence chatbot. *PsyArXiv*. [https://doi.org/10.31234/osf.io/9ktmf\\_v3](https://doi.org/10.31234/osf.io/9ktmf_v3)
5. Yang, Y.\*, **Wang, P.\***, Plonsky, L. D., Oswald, F. L., & Chen, H. (2024). From babbling to fluency: Evaluating the evolution of language models in terms of human language acquisition. *arXiv (Cornell University)*. <https://doi.org/10.48550/arXiv.2410.13259>
6. **Wang, P.**, Zou, H., Yan, Z., Guo, F., Sun, T., Xiao, Z., & Zhang, B. (2024). Not yet: Large language models cannot replace human respondents for psychometric research. *PsyArXiv*. <https://doi.org/10.31219/osf.io/rwy9b>

## Conference Presentations

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1. **Wang, P.**, Zou, H., Jiang, H., Chen, H., Sun, T., Yi, X., Xiao, Z., & Oswald, F. L. (2026). Generative personality simulation via theory-informed structured interview. [Oral Presentation]. The 19th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2026), Rabat, Morocco.
2. Zou, H., **Wang, P.**, Yan, Z., Sun, T., & Xiao, Z. (2025). Can LLM “self-report”? : Evaluating the validity of self-report scales in measuring personality design in LLM-based chatbots. [Poster]. Conference on Language Modeling (COLM 2025), Montreal, QC, Canada.
3. **Wang, P.**, Sylvara, A., Sun, T., Hebl, M. R., & Oswald, F. L. (2025). Differential embedding dimension functioning in natural language processing for psychological assessment. [Oral Presentation]. International Meeting of the Psychometric Society (IMPS 2025), Minneapolis, MN, United States.
4. **Wang, P.**, & Oswald, F. L. (Co-Chairs) (2025). Bridging Disciplines: How Computer Science and I-O Psychology Benefit Each Other. [Alternative Session Type]. Society for Industrial and Organizational Psychology Annual Conference (SIOP 2025), Denver, CO, United States.
5. **Wang, P.**, Zou, H., Yan, Z., Guo, F., Sun, T., Xiao, Z., & Zhang, B. (2025). Not yet: Large language models cannot replace human respondents for psychometric research. In Hickman, L., & Liu, M.(Co-Chairs) (2025). Machine learning for I-O 7.0: Large language models for assessments. [Symposium]. Society for Industrial and Organizational Psychology Annual Conference (SIOP 2025), Denver, CO, United States.
6. **Wang, P.**, Sylvara, A., Sun, T., Hebl, M. R., & Oswald, F. L. (2025). Differential embedding dimension functioning in natural language processing for psychological assessment. In Hou, X., & Sun, T. (Co-Chairs) (2025). Innovations in AI assessment of individual differences: Improving validity and equity. [Symposium]. Society for Industrial and Organizational Psychology Annual Conference (SIOP 2025), Denver, CO, United States.

7. **Wang, P.\***, Xiao, Z.\*, Chen, H., & Oswald, F. L. (2024). Will the real Linda please stand up. . .To large language models? Examining the representativeness heuristic in LLMs. [Oral Presentation]. Conference on Language Modeling (COLM 2024), Philadelphia, PA, United States. [**Oral spotlight presentation (top 2%)**]
8. **Wang, P.**, & Oswald, F. L. (2024). Leveraging synthetic data for advancements in organizational research. In Liou, G., & Tay, L. (Co-Chairs) (2024). Future of performance prediction and evaluation: Artificial intelligence and big data. [Symposium]. Society for Industrial and Organizational Psychology Annual Conference (SIOP 2024), Chicago, IL, United States.
9. Wu, F., **Wang, P.**, & Oswald, F. L. (2024). The influence of disability and career challenges on vocational interests. In Hoff, K. A. (Chair) (2024). To RIASEC and beyond: Advances in vocational interest research. [Symposium]. Society for Industrial and Organizational Psychology Annual Conference (SIOP 2024), Chicago, IL, United States.

### Selected Works in Progress

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1. **Wang, P.**, Hou, X., Tay, L., & Sun, T. (experiment stage). Watching, inferring, advising: MLLMs for vocational interest discovery. Target: *Journal of Vocational Behavior*.
2. **Wang, P.**, Guzzo, R. R., Nalbantian, R. H., & Oswald, F. L. (experiment stage). Lessons from organic organizational data: How synthetic data can help, what we should take care of. Target: *Personnel Psychology*.
3. Luo, J., Sun, T., & **Wang, P.** (writing stage). Prospective associations between experiences in different life domains and changes in personality traits: Using a machine learning approach. Target: *Journal of Personality and Social Psychology*.
4. **Wang, P.**, Sylvara, A., Oswald, F. L., Hebl, M. R., & Sun, T. (internal review stage). Differential embedding dimension functioning in natural language processing for psychological assessment. Target: *Journal of Applied Psychology*.
5. Sylvara, A., **Wang, P.**, Sargent, M., Gregg, E., Heron, X., & Sun, T. (internal review stage). Examining the faking resistance of an AI chatbot personality interview. Target: *Journal of Applied Psychology*.

### Invited Talks

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1. *Modeling individual language patterns and psychological constructs to generate AI-augmented data for scalable psychological assessment*. Industrial-Organizational Psychology Research Seminar, Department of Psychological Sciences, **Rice University**, Houston, TX. March 9, 2026.
2. *Psychometric AI: Differential embedding dimension functioning in natural language processing for psychological assessment*. Industrial-Organizational Psychology Research Seminar, Department of Psychological Sciences, **Rice University**, Houston, TX. March 10, 2025.

### Media Coverage

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1. "SMART lab students share research and industry experiences." *Rice News*. February 17, 2026. <https://socialsciences.rice.edu/news/-rice-university-social-sciences-smart-lab-students-share-experiences-i-o-psychology>
2. "Could your next job interview be with a chatbot? New study seeks to help bring fairness into AI-powered hiring." *Rice News*. September 29, 2025. <https://news.rice.edu/news/2025/could-your-next-job-interview-be-chatbot-new-study-seeks-help-bring-fairness-ai-powered>
3. "Are AI chatbot 'personalities' in the eye of the beholder?" *ScienceNews*. February 5, 2025. <https://www.sciencenews.org/article/ai-chatbot-personalities>

## Applied Experience

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- Google LLC** (Incoming Intern) May 2026 – August 2026  
*Research Scientist, People Analytics Team* *Boulder, CO*
- Incoming Research Scientist Intern with the People Analytics Team, focusing on quantitative and applied research at the intersection of people data, behavioral science, and organizational decision-making.
- HITE EQ** (Contract) January 2026 – Present  
*Research Scientist, Individual Differences AI/ML Assessment* *Chicagoland, IL*
- Developing AI-driven high-performance sports psychology assessments to measure and predict individual differences relevant to athletic performance, mental skills, and team dynamics.
  - Built an end-to-end assessment pipeline, including data processing, psychometric modeling, score generation, and automated report production for scalable delivery of athlete- and team-level insights.
  - Trained and evaluated predictive models for psychological and behavioral assessment, integrating psychometric methods with AI/ML approaches to improve reliability, interpretability, and practical utility.
  - Collaborated on the translation of assessment outputs into clear, decision-oriented reports for coaches, athletes, and organizational stakeholders.
- Midjourney, Inc** (Intern) May 2025 – November 2025  
*ML/AI Ph.D. Resident, Psychometric Team* *San Francisco, CA*
- Conducted applied research on methods for measuring, predicting, and taxonomizing psychological and behavioral traits, including personality, values, vocational interests, humor, habits, and workplace behavior.
  - Developed modeling frameworks spanning both classical statistical methods and modern AI/ML approaches.
  - Worked on AI methodologies, including multi-agent systems and post-train/reinforcement learning approaches such as PPO, DPO, and GRPO, to support trait inference, behavioral prediction, and assessment design.
  - Contributed to applied psychometric research in an industry setting under non-disclosure constraints, with work oriented toward real-world deployment and product use cases.

## Research Experience

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- Chili Lab Research Assistant** August 2024 – Present  
*Rice University, with Dr. Hanjie Chen* *Houston, TX*
- SMART Lab Research Assistant** August 2024 – Present  
*Rice University, with Dr. Tianjun Sun* *Houston, TX*
- OWLab Research Assistant** August 2023 – Present  
*Rice University, with Dr. Frederick L. Oswald* *Houston, TX*
- CFL Lab Research Assistant** May 2022 – May 2023  
*University of Minnesota-Twin Cities, with Dr. Gail M. Ferguson* *Minneapolis, MN*
- TNT Lab Research Assistant** April 2021 – May 2023  
*University of Minnesota-Twin Cities, with Dr. Richard N. Landers* *Minneapolis, MN*
- Ones' Green Lab Research Assistant** June 2020 – July 2022  
*University of Minnesota-Twin Cities, with Dr. Deniz S. Ones* *Minneapolis, MN*

## Teaching Experience

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- Teaching Assistant** Memory (Undergraduate Level)  
*Rice University* *Houston, TX*
- Supported undergraduate instruction in memory-related psychological concepts through discussion facilitation, grading, and student guidance.
  - Held office hours and provided individualized support to help students understand core theories, research findings, and course materials.
- Teaching Assistant** Advanced Psychological Statistics (Graduate Level)  
*Rice University* *Houston, TX*
- Assisted with an advanced statistical methods course for graduate students, including leading discussion sections, grading assignments, holding office hours, and providing one-on-one support for statistical concepts and methodologies.
  - Delivered a comprehensive guest lecture on Analysis of Variance (ANOVA), covering one-way and factorial ANOVA designs, assumption testing, post-hoc comparisons, and practical implementation in R.

- Designed hands-on exercises demonstrating how ANOVA can be applied to analyze group differences in psychological research.

## Teaching Assistant

Computational Linear Algebra (Undergraduate Level)

*University of Minnesota–Twin Cities*

*Minneapolis, MN*

- Supported students in computational approaches to linear algebra through lab instruction, grading programming assignments, and office hours covering both theoretical concepts and practical implementation.
- Led an interactive workshop on advanced matrix decomposition methods, including eigenvalue decomposition and singular value decomposition (SVD), with applications in machine learning and data science.
- Guided students in implementing algorithms in Python and MATLAB, with practical examples in dimensionality reduction, image compression, and principal component analysis (PCA).

## Service

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International Journal of Selection and Assessment (IJSA) – Reviewer	2026 – Present
Journal of Personality and Social Psychology (JPSP) – Reviewer	2026 – Present
Industrial and Organizational Psychology (IOP) – Reviewer	2026 – Present
ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) – Reviewer	2026 – Present
Association for Computational Linguistics Rolling Review (ARR) – Reviewer	2025 – Present
Conference on Language Modeling (COLM) – Reviewer	2025 – Present
Conference on Neural Information Processing Systems (NeurIPS) – Reviewer	2025 – Present
Society for Industrial and Organizational Psychology Annual Conference (SIOP) – Reviewer	2024 – Present
Conference on Human Factors in Computing Systems (CHI) – Reviewer	2024 – Present

## Professional Affiliations

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Academy of Management, *Member*  
 American Psychological Association, *Member*  
 Association for Psychological Science, *Member*  
 Society for Industrial and Organizational Psychology, *Member*

## Skills

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**Languages:** Python, R, JavaScript, HTML/CSS, SQL, Java, C  
**Developer Tools:** Git, Google Cloud Platform, VS Code, PyCharm, IntelliJ, Eclipse  
**Software:** Microsoft Word, Excel, PowerPoint, Access, Google Workspace

## Professional References

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### Dr. Frederick L. Oswald

Professor of Psychological Sciences; Herbert S. Autrey Chair in Social Sciences  
 Rice University  
 Email: foswald@gmail.com

### Dr. Tianjun Sun

Assistant Professor of Psychological Sciences  
 Rice University  
 Email: ts110@rice.edu

### Dr. Hanjie Chen

Assistant Professor of Computer Science  
 Rice University  
 Email: hc86@rice.edu

### Dr. Ziang Xiao

Assistant Professor of Computer Science  
 Johns Hopkins University  
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