Pengda Wang

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Education

Rice University — Houston, TX
Ph.D. in Industrial Organizational Psychology — *Anticipated: May 2028*
GPA: Psychology: 4.0/4.0

Rice University — Houston, TX
M.A. in Industrial Organizational Psychology; Qualifying Exams — *Oct 2025*
GPA: Psychology: 4.0/4.0
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 — Minneapolis, MN
B.S. in Psychology; B.A. in Computer Science — *Sep 2019 – May 2023*
GPA: Psychology: 3.9/4.0; Computer Science: 4.0/4.0

Research Interests

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

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

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

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

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

1. Sylvara, A., **Wang, P.**, Sargent, M., Heron, X., & Sun, T. (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: Examining AI chatbot interview faking resistance]. *Journal of Applied Psychology*.

2. **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*.

3. **Wang, P.**, Ortiz, N., Zou, H., Yan, Z., Guo, F., Sun, T., Xiao, Z., & Zhang, B. (1^{st} revise & resubmit). TITLE REMOVED FOR BLIND REVIEW. [Topic: Compare large language models vs. human respondents for psychometric research]. *Psychological Methods*.

4. Jia, Z., Lee, P., & **Wang, P.** (under review). TITLE REMOVED FOR BLIND REVIEW. [Topic: Automatic scale development]. *Organizational Research Methods*.

5. Sylvara, A., **Wang, P.**, Sun, T., Heimann, A. L., & Ingold, P. V. (2^{nd} revise & resubmit). TITLE REMOVED FOR BLIND REVIEW. [Topic: AI chatbot personality-based employment interview]. *Journal of Occupational and Organizational Psychology*.

6. 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*.

7. 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

1. Zhang, J.*, Bao, H.*, **Wang, P.***, Yan, A.*, Liu, X., Evans, J. A. (2026). Building an atlas of social experiments to link studies, reconcile conflicts, and bridge gaps. *arXiv (Cornell University)*. https://doi.org/10.48550/arXiv.2605.27153

2. 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

3. 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

4. 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

5. 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

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

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

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: *Journal of Applied 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*.

Invited Talks

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

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

Google LLC (Intern) May 2026 – August 2026
Research Scientist Intern, Future of Work Team *Boulder, CO*

- Developing AI-driven skill inference systems to estimate individual skills and proficiency levels from heterogeneous enterprise data sources using agentic workflows and retrieval-augmented generation.
- Built validation workflows for AI-driven skill inference systems to support scalable and interpretable people analytics applications.
- Designed and validated measures of task autonomy and AI-augmentability, including scale development, internal data collection, and SMEs evaluation of whether work tasks can be performed autonomously by AI systems.
- Constructing future-skill inference frameworks from longitudinal individual-level data, including validation plans, data collection protocols, and empirical analyses to assess reliability, validity, and organizational utility.
- Wrote SQL queries to evaluate the impact of AI-assisted interviews on candidates, interviewers, and end-to-end hiring workflows, analyzing candidate experience, interviewer behavior, process efficiency, and decision quality.

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

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

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

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

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

Skills

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

Dr. Frederick L. Oswald
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Rice University
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Dr. Tianjun Sun
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Rice University
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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
Email: ziang.xiao@jhu.edu