

Derek Mracek, PhD

Industrial Organizational Psychologist & Data Scientist

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EXPERIENCE

[derekmracek.io](#), Principal — *Minneapolis, MN*

SEP 2020 - PRESENT

- Develop machine teaching and machine learning solutions
- Offer advice and expertise related to psychometrics
- Create project plans addressing necessary requirements

[Lambda School](#), Senior Data Scientist — *Minneapolis, MN*

OCT 2019 - AUG 2020

- Performed analysis and modeling to provide insights into different aspects of the business especially admissions
- Integrated solutions into applications and tools with data engineers, analysts, business leads and developers
- Managed and evaluated assessment solution providers

[Modern Hire](#), Senior Data Scientist — *Minneapolis, MN*

JUN 2015 - OCT 2019

- Envisioned, prototyped and delivered capabilities and products involving artificial intelligence and machine learning
- Informed the companies' long- and short-term vision, focus, and strategy
- Provided industry thought leadership (e.g., multiple awards, webinars, white papers)
- Developed interpretable and legally defensible models for predicting important phenomenon such as: expertise, performance ratings and metrics, turnover, engagement, leadership

[ACT Workforce Research](#), Summer Intern — *Iowa City, IA*

MAY 2014 - AUG 2014

- Developed assessment for performance appraisal using factor analysis
- Wrote technical paper to document the research and development process
- Planned and conducted survey involving user reactions to assessment as well as presented findings to internal stakeholders

MOST PROUD OF

[Pioneering the Application of Deep Learning to Talent Acquisition.](#)

Automated the expert evaluation of unstructured text ([press release](#))

[SHRM Business Impact Awards](#)

Consulting to the Fortune 10, demonstrated the BI and legal defensibility of hiring solutions.

[Color-mapping of Deep Learning Models](#)

Enables stakeholders to visualize what words are positively or negatively related to certain competencies

[2019 HR Tech Demo](#)

EXAMPLE TECH

[Languages](#) Python Git R SQL
SPSS SAS MPLUS

[Python Packages](#) Metaflow
Snorkel Transformers spaCy
Requests Keras Pytorch

[Example Analyses](#) IRT Deep
Learning NLP Adversarial
Debiasing

[Agile Project Management](#)
JIRA ASANA Trello MS Teams

EDUCATION

University of Oklahoma, PhD

MAJOR: Industrial Organizational Psychology **MINOR:** Quantitative Psychology

East Carolina University, MA

MAJOR: Industrial Organizational Psychology

University of Minnesota Duluth, BS

MAJOR: Psychology **MINOR:** Coaching

SELECT PRESENTATIONS

Mracek, D.L., Sydell, E., Thompson, I.B., & Koenig N. (2019, July). *AI powered realistic job previews*. Winner of the IPAC 2019 Innovations in Assessment Award and presented at the annual meeting of the International Personnel Assessment Council, Minneapolis, MN.

Mracek, D.L., & Thompson, I.B. (2021, April). *Machine teaching: the state of the art and science of rating unstructured data*. Alternative session to be presented at the 36th annual meeting of the Society for Industrial and Organizational Psychology, New Orleans, LA.

Mracek, D.L., Petersen, N., Barsa, A., & Koenig N. (2021, April). *DEEP*O*NET: a neural network approach to leveraging detailed text descriptions of the world of work*. Symposium to be presented at the 36th annual meeting of the Society for Industrial and Organizational Psychology, New Orleans, LA.

Andrews, J.S. & **Mracek, D.L.** (2021, April). *Artificial intelligence to automate the evaluation of social media images*. Symposium to be presented at the 36th annual meeting of the Society for Industrial and Organizational Psychology, New Orleans, LA.

Tonidandel, S., Thompson, I.B., **Mracek, D.L.**, & Koenig N. (2020, April). *Automating subject matter expertise used to evaluate candidate work samples*. Symposium presented at the 36th annual meeting of the Society for Industrial and Organizational Psychology, Austin, TX.

Omori, C., Sheets, T., Andrew, L., Kim, B., Landers, R.N., & **Mracek, D.L.** (2019, April). *Predicting the future of prediction: A discussion of technology in assessment and selection*. Panel presented at the 34th annual meeting of the Society for Industrial and Organizational Psychology, National Harbor, MD.

Petersen, N.L., King, R., **Mracek, D.L.**, Harvel, J., Girouard, M.J., & Harpe, L. (2019, April). *Opening the black box: legal defensibility of machine learning in assessment*. Panel presented at the 34th annual meeting of the Society for Industrial and Organizational Psychology, National Harbor, MD.

PUBLICATIONS

Rockwood, J., **Mracek, D. L.**, & Day, E. A. (2020). Relating subjective workload and effort to performance during stable and shifting task demands: A multilevel approach, Proceedings of the Human Factors and Ergonomics Society 64th Annual Meeting, Chicago, IL: Human Factors and Ergonomics Society.

Thompson, I., Koenig, N., **Mracek, D.L.**, & Tonidandel, S. (2021). Integrating deep learning and measurement science: Automating the subject matter expertise used to evaluate candidate work samples. *Journal Applied Psychology*. Revise and Resubmit.

Mracek, D. L., Arsenault, M. A., Day, E. A., Hardy, J. H., & Terry, R. A. (2014). A multilevel approach to relating subjective workload to performance after shifts in task demands. *Human Factors*, 56, 1401–1413. doi:0018720814533964.

Barrett, J. D., Vessey, W. B., Griffith, J. A., **Mracek, D. L.**, & Mumford, M. D. (2014). Predicting scientific creativity: the role of adversity, collaborations, and work strategies. *Creativity Research Journal*, 26, 39–52. doi:10.1080/10400419.2014.873660