

DEREK MRACEK, PhD

io psychologist & data scientist

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📍 Minneapolis, MN

EXPERIENCE

Senior Data Scientist

Lambda School

📅 2019–2020

📍 Minneapolis, MN

- 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

Senior Data Scientist

Modern Hire, Labs

📅 2015–2019

📍 Minneapolis, MN

- 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

Summer Intern

ACT, Workforce Research

📅 2014

📍 Iowa City, IA

- 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

Research Scientist

SEAMATE, Center for Applied Social Research

📅 2010–2013

📍 Norman, OK

- Designed, developed, and implemented a team-based computer adaptive training initiative
- Conducted calibration and evaluation studies involving multi-dimensional item-response theory
- Examined growth of performance metrics vis-à-vis multivariate HLM

Independent Consultant

Questar

📅 2010–2012

📍 St. Paul, MN

- Designed employee engagement survey and 360 degree feedback item content
- Interfaced with organizational stakeholders regarding survey
- Wrote white paper to share survey findings

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 TECHNOLOGIES

Languages

Python

Git

R

SQL

SPSS

SAS

MPLUS

Example Python Packages

Metaflow

Snorkel

Transformers

spaCy

Requests

Keras

Pytorch

Seaborn

Example Analyses

IRT

Deep Learning

Adversarial Debiasing

NLP

Weak/Distant Learning

Time-series

(Agile) Project Management

JIRA

Asana

Trello

MS Teams

EDUCATION

Ph.D. The University of Oklahoma

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

M.A. East Carolina University

MAJOR: *Industrial and Organizational Psychology*

B.S. The University of Minnesota Duluth

MAJOR: *Psychology*
MINOR: *Coaching*

SELECT PRESENTATIONS

Mracek, D.L., & Thompson, I.B. (2020, April). Machine teaching: the state of the art and science of rating unstructured data. Alternative session to be presented at the 35th annual meeting of the Society for Industrial and Organizational Psychology, Austin, TX.

Mracek, D.L., Petersen, N., Barsa, A., & Koenig N. (2020, April). DEEP*O*NET: a neural network approach to leveraging detailed text descriptions of the world of work. Symposium to be presented at the 35th annual meeting of the Society for Industrial and Organizational Psychology, Austin, TX.

Andrews, J.S., & **Mracek, D.L.** (2020, April). Artificial intelligence to automate the evaluation of social media images. Symposium to be presented at the 35th annual meeting of the Society for Industrial and Organizational Psychology, Austin, TX.

Tonidandel, S., Thompson, I.B., **Mracek, D.L.**, & Koenig N. (2020, April). Automating subject matter expertise used to evaluate candidate work samples. Symposium to be presented at the 35th annual meeting of the Society for Industrial and Organizational Psychology, Austin, TX.

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., Dudley, N., Petersen, N., & Koenig N. (2019, July). Applying the good AI to assessment. Paper presented at the annual meeting of the International Personnel Assessment Council, Minneapolis, MN.

Mracek, D.L. (2019, February). Color-mapping the black box. Presentation to the Minneapolis Python Data Science Meetup, Bloomington, MN.

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 to be 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 to be presented at the 34th annual meeting of the Society for Industrial and Organizational Psychology, National Harbor, MD.

Thompson, I., & **Mracek, D.L.** (2019, April). A Deep learning framework to automate the scoring of open-ended text. Panel to be presented at the 34th annual meeting of the Society for Industrial and Organizational Psychology, National Harbor, MD

Kluth, T. A., Wang, W., Sydell, E. J. & **Mracek, D. L.** (2016). Predicting job performance from text responses: A Big Data Approach. Poster presented at the 31st Annual Conference of the Society for Industrial and Organizational Psychology, Anaheim, CA.

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.**, & Tonidandel, S. (2020). Integrating deep learning and measurement science: Automating the subject matter expertise used to evaluate candidate work samples. Manuscript submitted for publication.

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