Derek Mracek, PhD

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Data Scientist & Industrial Organizational Psychologist

Award-winning expert in people assessment science

Skills: NLP, software dev, modeling, communication, innovation

EXPERIENCE

Yobs, Head of Science — *Minneapolis, MN*

Yobs, Lead Data Scientist — *Minneapolis, MN*

MAY 2021 - FEB 2022

- Translate people science into software
- Develop and maintain cloud-based services involving AI/ML
- Lead the development of interview kits, questions, and expert evaluation

derekmracek.io, Principal — *Minneapolis, MN*

SEP 2020 - PRESENT

- Develop data science 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
- Provided industry thought leadership (e.g., multiple awards, webinars, white papers)
- Developed interpretable and legally defensible models for predicting important phenomena such as: expertise, performance ratings and metrics, turnover, engagement, leadership

MOST PROUD OF

Pioneering the Application of Deep Learning to Talent Acquisition.

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

Journal of Applied Psychology Revise and Resubmit

SHRM Business Impact Awards

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

Deep Learning Visualization

Enables stakeholders to visualize what words are positively or negatively related to certain competencies
2019 HR Tech Demo

EXAMPLE TECH STACK

Languages Python Git R SQL AWS SPSS SAS MPLUS

Python Packages pandas spaCy Metaflow Snorkel Keras Transformers Requests

Analyses NLP Adversarial Debiasing IRT Deep Learning

Agile Project Management

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

PUBLICATIONS

Thompson, I., Koenig, N., **Mracek, D.L.,** & Tonidandel, S. (2021). Deep learning in employee selection: evaluation of algorithms to automate the scoring of open-ended assessments. *Journal Applied Psychology.* Revise and Resubmit.

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.

Cubrich, M., King, R.T., **Mracek, D.L.,** Strong, J., Hassenkamp, K., Vaughn, E.D., Dudley, N. (2021). Examining the criterion-related validity evidence of LinkedIn profile elements in an applied sample. *Computers in Human Behavior.* Manuscript accepted 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

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.

Mracek, D.L. & Chackoria, J. (2022, April). *RoBERTa the Copilot: Using Text Similarity to Accelerate and Safeguard SME Ratings.* Symposium to be presented at the 37th annual meeting of the Society for Industrial and Organizational Psychology, Seattle, WA.

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.T., **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.