

Kevin Stowe, Ph.D.

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in LinkedIn

🌐 Website

Introduction

- I am a research scientist and natural language processing/artificial intelligence professional. My research interests include natural language generation, figurative language, linguistics-informed machine learning, and responsible AI. I have 10+ years of experience in NLP with expertise in software development, model training and deployment, data analysis, and deep learning. My previous projects include advanced LLM-prompting techniques for generating educational content, novel approaches to generating metaphors and other figurative language, and deep learning-based classification of social media data during natural disasters.



Employment History

- 2024 – ···· ■ **Research Scientist**, Educational Testing Service (ETS), Princeton, NJ
- 2022 – 2024 ■ **Associate Research Scientist**
 - Automated Content Generation (ACG) team: building natural language generation methods for thousands of items over dozens of item types for testing/educational applications.
 - Implement and explore state-of-the-art LLM methodology, focusing on high-quality evaluation, self-correcting prompting strategies, and agent-based methodology.
 - Fairness, bias, and accessibility project leader, exploring socio-technical solutions for responsible generation of educational content.
 - Develop and implement research and infrastructure roadmaps for generative AI team, incorporating responsible AI and state-of-the-art natural language generation and evaluation research.
 - Member of the Responsible AI working group.
- 2019 – 2022 ■ **Postdoctoral Researcher**, Ubiquitous Knowledge Processing (UKP), Technical University of Darmstadt, Darmstadt, Germany
 - Lead research in metaphor generation, dataset creation for figurative language inferences, and more, yielding top-tier conference publications.
 - Developed research in social media during crises, defining foundational research into crowd-sourcing NLP data.
 - Instructor for a graduate seminar on Responsible AI focusing on the ethical use of AI, positive societal impacts, and public policy.
- 2013 – 2019 ■ **Research Assistant**, University of Colorado, Boulder, CO
 - NLP expert for the Empowering the Public with Information in Crisis (EPIC) group, focusing on developing positive impacts of NLP for natural and man-made hazards.
 - Research in lexical resources, figurative language, named entity recognition, and computational social science.






Education

- 2013 – 2019 ■ **Ph.D., University of Colorado**
Joint Degree in Linguistics and Computer Science
Thesis: *Syntactic and semantic improvements to computational metaphor processing*






Education (continued)

- 2009 – 2011  **Master of Arts, Indiana University**
Computational Linguistics Track
- 2004 – 2009  **Bachelor of Arts, Michigan State University**
Linguistics

Skills

- Programming  Python, Java, R, PHP, Javascript, SQL
- Toolkits  HuggingFace, PyTorch/Tensorflow, OpenAI, ScikitLearn, NLTK, Spacy, Gensim
- Environments  Git, AWS (S3, EC2, SageMaker, etc), Linux/Unix/Mac/Windows
- Misc.  Scientific research, writing, and presentation; client communications, team/project leadership, interdisciplinary collaboration
- Languages  Native English, fluent German, beginner Russian

Select Publications

- 1 Stowe, K. *et al.* Identifying Fairness Issues in Automatically Generated Testing Content. *19th Workshop on Innovative Use of NLP for Building Educational Applications*. eprint: 2404.15104 (cs.CL).
 <https://arxiv.org/abs/2404.15104> (2024).
- 2 Pramanick, A., Beck, T., Stowe, K. & Gurevych, I. The challenges of temporal alignment on Twitter during crises. *Findings of Empirical Methods in Natural Language Processing (EMNLP)*, 2658–2672.
 <https://aclanthology.org/2022.findings-emnlp.195> (Dec. 2022).
- 3 Stowe, K., Ghosh, D. & Zhao, M. Controlled Language Generation for Language Learning Items. *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP): Industry Track* (eds Li, Y. & Lazaridou, A.) 294–305.
 <https://aclanthology.org/2022.emnlp-industry.30> (Dec. 2022).
- 4 Stowe, K., Utama, P. & Gurevych, I. IMPLI: Investigating NLI Models' Performance on Figurative Language. *Proceedings of the Association for Computational Linguistics (ACL)*, 5375–5388.
 <https://aclanthology.org/2022.acl-long.369> (May 2022).
- 5 Stowe, K., Chakrabarty, T., Peng, N., Muresan, S. & Gurevych, I. Metaphor Generation with Conceptual Mappings. *Proceedings of the Association for Computational Linguistics (ACL)*, 6724–6736.
 <https://aclanthology.org/2021.acl-long.524> (Aug. 2021).