Kevin Stowe, Ph.D.

kevincstowe@gmail.com 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).