

# Adam Goodkind

## Research Engineer

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adamgoodkind.com

### Strengths

- Apply extensive background in linguistics, NLP, machine learning, and statistics to understand complex data
- Build tools such as LLM-based chatbots that are uniquely fine-tuned to user's needs
- Lead complex research programs incorporating technical and subject-matter experts, to answer complicated questions for diverse stakeholders
- Create compelling data visualizations to succinctly communicate complicated findings to a variety of audiences

### Education

- 2023  
2016 **PhD, Northwestern University: Human-Computer Interaction**
  - **Thesis:** [Predicting Social Dynamics in Interactions Using Typing Patterns](#)
  - **Honors:** Data Science Fellow, Cognitive Science Specialist
- 2016  
2013 **MA, CUNY Graduate Center: Computational Linguistics**
  - **Thesis:** [Utilizing Linguistic Context To Improve Identification in Typed Text](#)
  - **Coursework:** Natural Language Processing, Statistics, Data Visualization
- 2007  
2003 **BA, Columbia University: Religious Studies**
  - **Honors:** King's Crown Award For Leadership, Dean's List

### Experience

- 2024 **Kairos Research LLC, Language Modeling Consultant**
  - **Language Model (LLM) Research:** Providing language modeling (LLM) expertise for projects that combine and augment human capabilities with the help of LLMs and AI
- 2024  
2023 **National Institutes of Health, Postdoctoral Research Fellow**
  - **Multifaceted Research:** Work on fine-tuning a chatbot, using LLMs, to provide appropriate and relevant advice for sensitive health topics
  - **Analysis & Statistics:** Conduct NLP research leveraging social media to understand mental health based on language choice
  - **Unstructured Data Processing:** Spearhead research into using data from smartphones in order to understand users' motivations
  - **Mentoring:** Mentor team members on statistics and technical issues
  - **Honors:** Awarded a Scientific Director Fellowship for Diversity in Research
- 2023  
2016 **Northwestern University, PhD Researcher**
  - **Complex Research, Statistical Analysis and Communication:** Dissertation connected empirical behavioral data to latent user sentiments regarding interactions and experiences
  - **End-to-End Research Management:** Recruited 300+ crowdsourced participants, iteratively designed experiment interface, and led all aspects of data analysis

- **Machine Learning:** Create classification and regression models to understand the influence of relationships and satisfaction on user behavior
- **Language Model Research:** Conducted research comparing the output of multiple language models to alignment with human-generated data
- **Research Team Coordination:** Led a team of diverse research assistants to design an online experimental apparatus and analyze results of users

2020

#### Vail Systems, PhD Data Science Intern

- **Experiment design:** Created experiments to empirically evaluate the subjective quality of computational text-to-speech (TTS) systems

2013

#### Microsoft, Software Developer in Test Intern

- **Web development:** Developed website (back- and front-end) to diagnose licensing issues with Microsoft products

## Language Skills

**Computer:** Python (TensorFlow, scikit-learn), R (tidyverse, lme4), Java,  $\LaTeX$ , JavaScript

**Human:** Beginning proficiency in American Sign Language (ASL), Hebrew, Latin

## Select Awards and Honors

2023

**Scientific Director Fellowship for Diversity in Research, National Institutes of Health**

2022

**Future of Health & Wellness Technologies Conference (HCIC) - Departmental Representative, Northwestern University**

2022

**Dissertation Research Support, Northwestern Dept. of Communication Studies**

2021

**Incubation Prize, Hack4Rare Rare Disease Hackathon**

2018

**Best Paper Award, Cognitive Modeling & Computational Linguistics Workshop**

2016

**Data Science Fellowship, Northwestern University**

2014

**Google Lime Connect Scholarship–Finalist**

## Selected Publications (See [Google Scholar](#) for full list)

2023

**Goodkind, A.**, Predicting social dynamics in interactions using typing patterns. Doctoral thesis. Northwestern University. [[full thesis](#)] [[abstract](#)]

2022

**Goodkind, A.**, Gergle, D. Information from keystroke patterns can increase the effectiveness of digital mental healthcare. Inaugural Meeting of the Society for Digital Mental Health. [[poster](#)]

2021

**Goodkind, A.** TypeShift: A User Interface for Visualizing the Typing Production Process. [[paper](#)]

**Goodkind, A.**, Bicknell, K. Local word statistics affect reading times independently of surprisal. [[paper](#)]

2020

**Goodkind, A.** An analytic model for human subjective judgments of computer-generated synthetic voice (TTS) quality. Technical Report for Vail Systems. Chicago, IL.

2018

**Goodkind, A.,** Lee, M., Martin, G. E., Losh, M., & Bicknell, K. Detecting language impairments in autism: A computational analysis of semi-structured conversations with vector semantics. In *Proceedings of the Inaugural Meeting of the Society for Computation in Linguistics*. Salt Lake City, UT: Linguistic Society of America [[paper](#)] [[slides](#)]

**Goodkind, A. & Bicknell, K.** Predictive power of word surprisal for reading times is a linear function of language model quality. In *Proceedings of the 8th Workshop on Cognitive Modeling and Computational Linguistics (CMCL 2018)*. Linguistic Society of America. [[paper](#)] [[slides](#)] \* **Best Paper Award**

2016

**Goodkind, A.,** Brizan D.G. & Rosenberg, A. Utilizing Overt and Latent Linguistic Structure to Improve Keystroke-Based Authentication. *Image and Vision Computing: Best of Biometrics Special Issue*. [[paper](#)]

2015

**Goodkind, A.,** Brizan D.G. & Rosenberg, A. Improvements to Keystroke-Based Authentication By Adding Linguistic Context. 7th IEEE Conference on Biometrics: Theory, Applications and Systems (BTAS 2015) [[paper](#)]

**Goodkind, A. & Rosenberg, A.** Muddying The Multiword Expression Waters: How Cognitive Demand Affects Multiword Expression Production. 11th Workshop on Multiword Expressions at NAACL-HLT 2015. [[paper](#)]