

# Adam Goodkind

☎ 973 939 0023  
✉ [a.goodkind@u.northwestern.edu](mailto:a.goodkind@u.northwestern.edu)  
[adamgoodkind.com](http://adamgoodkind.com)

## Strengths

With an extensive background in computational linguistics, statistical modeling, and data visualization, I study linguistic aspects of human-computer interaction, with the aim of improving collaborative success between people. My research uses keystroke-level analyses of online conversations to understand a user's cognitive processing and how it impacts collaboration. I then use predictive modeling, statistics, and data visualization to consolidate and share complex findings in an understandable fashion. Using these findings, I then work to create tools that improve user experiences.

## Education

2016

**PhD Candidate, Northwestern University, Human-Computer Interaction**

- **PI:** Darren Gergle
- **Thesis:** [Predicting social dynamics in online dialogue using keystroke and typing behavior \[in progress\]](#)
- **Honors:** Data Science Fellow, Cognitive Science Specialist

2016

**MA, CUNY Graduate Center, Computational Linguistics**

2013

- **Thesis:** [Utilizing Linguistic Context To Improve Typed Text Identification](#)

2007

**BA, Columbia University, Religion (Study of Science & Religion)**

2003

- **Honors:** King's Crown Award For Leadership, Dean's List: 2006, 2007

## Experience

### Industry

2020

**PhD Data Science Intern, Vail Systems, Chicago, IL**

- Created experiments to empirically evaluate the subjective quality of text-to-speech (TTS) systems

2013

**Software Developer in Test Intern, Microsoft Corp., Redmond, WA**

- Developed website (back- and front-end) to diagnose licensing issues with Microsoft products
- Developed decision-making pipeline to aid in issue diagnosis

2012

**Operations Analyst, Goldman Sachs & Co., Multiple Locations**

2008

- Team Leader for Technology Enhancements
- Created software to streamline daily asset delivery workflow, from 3 hours to 25 minutes

### Academic

2017

**Research Assistant, Northwestern University**

- Managing a small team (for thesis research) that designed a web interface for collection and analysis of keystroke-level data

- Creating predictive models from keystroke data to understand social dynamics based on typing patterns
- Modeling the relationship between neural network-generated language model quality and human cognition
- Visualizing language impairment in autism using word vectors

2016  
2012

**Research Assistant, Sound Lab, CUNY Graduate Center**

- DARPA-funded initiative to identify "cognitive fingerprints", or unique typing patterns, for personalized authentication, by applying NLP to typed text

## Language Skills

**Computer** Java, Python, R (ggplot2, plotly, lme4), C++, L<sup>A</sup>T<sub>E</sub>X, HTML, JavaScript, React, CSS  
**Human** Beginning proficiency in American Sign Language (ASL), Hebrew, Latin

## Select Awards and Honors

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

2014 • **Google Lime Connect Scholarship–Finalist**

2007 • **King's Crown Award: Outstanding Leadership**, Columbia University

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

Adam Goodkind. Typeshift: A user interface for visualizing the typing production process. *arXiv preprint arXiv:2103.04222*, 2021.

Adam Goodkind and Klinton Bicknell. Local word statistics affect reading times independently of surprisal. *arXiv preprint arXiv:2103.04469*, 2021.

Adam Goodkind. An analytic model for human subjective judgements of computer-generated synthetic voice (TTS) quality. Technical report, Vail Systems, Chicago, IL, 2020.

Adam Goodkind and Klinton Bicknell. 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)*, pages 10–18, 2018.

Adam Goodkind, Michelle Lee, Gary E Martin, Molly Losh, and Klinton Bicknell. Detecting language impairments in autism: A computational analysis of semi-structured conversations with vector semantics. *Proceedings of the Society for Computation in Linguistics (SCiL) 2018*, pages 12–22, 2018.

Adam Goodkind, David Guy Brizan, and Andrew Rosenberg. Utilizing overt and latent linguistic structure to improve keystroke-based authentication. In *Image and Vision Computing: Best of Biometrics Special Issue*, volume 58, pages 230–238. Elsevier, 2017.