

Strengths

- An extensive background in NLP and HCI contributes to a deep understanding of "experiences": both how to measure them and how to improve them
- Apply findings from experiments to improve collaboration in domains such as remote work and telehealth
- Utilize very large datasets to study fine-grained phenomenon and gain better insight into overall cognition and emotion
- Leading a comprehensive research program focusing on predicting interaction quality in dialogues, based on how a user produces their response
- Design compelling visualizations to communicate complex findings to a diverse audience

Education

- 2023
2016 **PhD, Northwestern University, Human-Computer Interaction**
 - **PIs:** Darren Gergle (CollabLab) and Anne Marie Piper (Inclusive Technology Lab)
 - **Thesis:** [Predicting social dynamics in online dialogue using keystroke and typing behavior](#)
 - **Honors:** Data Science Fellow, Cognitive Science Specialist
- 2016
2013 **MA, CUNY Graduate Center, Computational Linguistics**
 - **PI:** Andrew Rosenberg (Speech Lab)
 - **Thesis:** [Utilizing Linguistic Context To Improve Identification in Typed Text](#)
 - Coursework in Natural Language Processing, Statistics, Data Visualization
- 2007
2003 **BA, Columbia University, Religion**
 - **Honors:** King's Crown Award For Leadership, Dean's List: 2006, 2007

Experience

- 2023
2016 **National Institutes of Health, Postdoctoral Research Fellow**
 - Translational Research: Drive statistical analysis, NLP and machine learning pipelines of social media language data, for insights into health and behavior
 - Mobile Biometrics: Spearhead research into using keystroke data from smartphones in order to understand users' motivations and cognitive states
 - Mentoring: Mentor team members on statistical concepts and technical issues
- 2023
2016 **Northwestern University, PhD Researcher**
 - Create machine learning and regression models to understand the influence of social dynamics on user behavior
 - Lead a team of research assistants to design an experimental apparatus and analyze results for users engaged in conversations
 - Develop quantitative metrics to measure user behavior and infer how it reflects experiences and motivations
 - Utilize qualitative methodologies to evaluate survey data about user experiences
 - Visualize data and results in order to make hypotheses understandable and compelling

- Use word vectors to understand and predict autism in children
- Model the relationship between neural network language model quality and human cognition

2017

Northwestern University, Teaching Assistant

- Teaching experience in Human-Computer Interaction, Cognitive Science, and Sociolinguistics
- Lead discussion sections and provided feedback to students on assignments, and help them understand difficult concepts

2020

Vail Systems, PhD Data Science Intern

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

2013

Microsoft, Software Developer in Test Intern

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

2012

2008

Goldman Sachs & Co., Operations Analyst

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

Language Skills

Computer: Python, R (ggplot2, plotly, lme4), Java, C++, \LaTeX , HTML, JavaScript, React, CSS
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)

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 judgements 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)*. Salt Lake City, UT: 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](#)]
- Brizan, D. G.*, **Goodkind, A.***, Koch, P., Balagani, K., Phoha, V. V., & Rosenberg, A. Utilizing Linguistically-Enhanced Keystroke Dynamics to Predict Typist Cognition and Demographics. *International Journal of Human-Computer Studies*, October 2015, vol. 84, 57-68. [[paper](#)]
2008. **Goodkind, A. & Passonneau, R.J.** Tracking the Emergence of Narrative Competence in Story Retelling. *Quebec Student Journal of Linguistics*, Vol. 3. [[paper](#)]
2007. Passonneau, R.J., **Goodkind, A.,** & Levy, E.T. Annotation of Children's Oral Narrations: Modeling Emergent Narrative Skills for Computational Applications. Florida AI Research Society Conference. [[paper](#)]
2006. Passonneau, R.J., McKeown, K., Sigelman, S., & **Goodkind, A..** Applying the Pyramid Method in the 2006 Document Understanding Conference. *Proceedings of the 2006 Workshop of the Document Understanding Conference (DUC)*. [[paper](#)]