

Adam N. Goodkind

CONTACT INFORMATION	Northwestern University Department of Communications 2240 Campus Drive, Evanston, IL 60208 USA	a.goodkind@u.northwestern.edu adamgoodkind.com
RESEARCH INTERESTS	With an extensive background in computational linguistics and NLP, I study linguistic aspects of human-computer interaction (HCI) with the aim of improving collaboration (CSCW). My research uses keystroke-level analysis to understand a user's cognitive processing that is taking place below surface-level production. I then use sophisticated data visualization techniques to consolidate and share complex findings in an understandable fashion. Using these findings, I then work to create tools that improve user experiences.	
EDUCATION	PhD, Northwestern University Media, Technology & Society Program 2019–Present PI: Darren Gergle (CollabLab) Linguistics Department 2016–2019 PI: Clinton Bicknell (Language & Computation Lab) <i>Honors:</i> Data Science Fellowship Cognitive Science Specialist M.A., CUNY Graduate Center 2016 Computational Linguistics M.A. Thesis: Utilizing Linguistic Context To Improve Identification in Typed Text Thesis Advisors: Prof. Andrew Rosenberg and Prof. Martin Chodorow B.A., Columbia University 2007 Religion (Study of Science & Religion)	
RESEARCH EXPERIENCE	Research Assistant , CollabLab, Evanston, IL, USA 2019–Present PI: Darren Gergle My proposed dissertation uses keystroke-level analysis to understand differences in language production and linguistic choices depending on the perceived conversational partner. By comparing a user's reaction to mistakes made by another human versus mistakes made by a computer, we can better understand how unique mental models impact collaborative work in different settings. Research Assistant , LangComp Lab, Evanston, IL, USA 2017–2019 PI: Clinton Bicknell Researching autism diagnoses using linguistic markers, such as semantic similarity (word vectors) and pragmatic deficiencies. Also researching how linguistic predictability, measured with neural network-generated language models, affects sentence processing via eye-tracking. Research Assistant , CUNY Speech Lab, New York, NY, USA 2012–2016 PI: Andrew Rosenberg Research Assistant , Columbia NLP Group, New York, NY, USA 2006–2007 PI: Rebecca Passonneau	
HONORS AND AWARDS	Best Paper Award , Cognitive Modeling & Computational Linguistics (CMCL) 2018 Developmental Sciences Cluster Fellowship - Finalist , Northwestern University 2018 Data Science Fellowship , Northwestern University 2016–2017 USS Donald and Mary Ellen Passantino Scholarship , CUNY Graduate Center 2015 Google Lime Connect Scholarship-Finalist 2014 Thomas W. Smith Academic Fellowship , CUNY Graduate Center 2013–2014	

National Science Foundation, Undergraduate Research Grant, Columbia University **2007**
 Albert A. List Academic Fellowship **2003–2007**
 King’s Crown Award for Outstanding Leadership, Columbia University **2006**

PUBLICATIONS

- 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. [\[paper\]](#) [\[slides\]](#)
- 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](#).
- 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 \(BTAS 2015\)](#). ([Slides](#))
- 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](#). ([Slides](#))
- 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](#).
- 2014 Locklear, H., Govindarajan, S., Sitova, Z., **Goodkind, A.**, Brizan, D., Rosenberg, A., Phoha, V., Gasti, P., & Balagani, K. *Continuous Authentication with Cognition-centric Text Production and Revision Features*. [Biometrics \(IJCB\), 2014 IEEE International Joint Conference](#).
- 2013 Serwadda, A., Balagani, K., Wang, Z., Koch, P., Govindarajan, S., Pokala, R., **Goodkind, A.**, Brizan, D.G., Rosenberg, A., & Phoha, V. *Scan-based Evaluation of Continuous Keystroke Authentication Systems*. [IT Professional, 15\(4\), 20-23](#).
- 2008 **Goodkind, A.** *Tracking the Emergence of Narrative Competence in Story Retelling*. [Quebec Student Journal of Linguistics, Vol. 3](#).
- 2007 Passonneau, R. J., **Goodkind, A.**, & Levy, E. T. *Annotation of Children’s Oral Narrations: Modeling Emergent Narrative Skills for Computational Applications*. [Florida Artificial Intelligence Research Society \(FLAIRS\), 253-258](#).
- 2006 Passonneau, R., 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 \(DUC\)](#).

PRESENTATIONS

- 2018 Lee, M.A., Martin, G.E., **Goodkind, A.**, Bicknell, K., Maltman, N., Bush, L., Losh, M. *A Multi-Method Approach to Characterizing Pragmatic Language Development in Individuals with FXS*. Paper presented at the International Fragile X Conference, Cincinnati, OH, July, 2018
- Goodkind, A.** *Complex Data Visualization: Visualizing language production dynamics via keystroke analysis*. Presentation at Inaugural Data Science Research Day, Northwestern University Institute on Complex Systems, 25 June 2018. ([Slides](#))
- Goodkind, A.** *Demo of TypeShift software system for tracking keystroke dynamics* at Individual Differences Workshop, Northwestern University, 30 May 2018. ([Code](#))

Lee, M.A., Martin, G.E., **Goodkind, A.**, Bicknell, K., Maltman, N., Bush, L., Losh, M. *A longitudinal, multi-method analysis of pragmatic language in ASD and related developmental disabilities*. Poster presented at the International Society for Autism Research, May, 2018, Rotterdam, Netherlands

Goodkind, A. & Bicknell, K.. *Low-level language statistics affect reading times independently of surprisal*. Poster presentation at the 31st annual CUNY Conference on Human Sentence Processing, UC Davis, Davis, California, 15–17 March 2018.

2015 Goldman, N. & **Goodkind, A.**. *Worth 1,000 Words: The Linguistics of Emoji and Emoji of Linguistics*. SQUID X: 10th Annual Conference Showcasing Quirky and Original Ideas in Development. New York, NY April 24, 2015. ([Slides](#))

2014 **Goodkind, A.**. *Detecting Multi-word Expressions Through Typing Patterns*. *15th Texas Linguistics Society Conference, Austin ,TX, October 24-26, 2014* ([Slides](#))

Goodkind, A.. *Detecting Multi-word Expressions in Computer Keyboard Produced Text*. *CUNY Research Day*, New York, NY

TEACHING EXPERIENCE

Teaching Assistant

Northwestern University

- Communication Studies 351: Technology & Human Interaction (Prof. Darren Gergle), 2021
- Linguistics 220: Language & Society (Prof. Annette D’Onofrio), 2018
 - Guest lecture on quantitative data analysis
- Cognitive Science 210: Language & the Brain (Profs. Matt Goldrick & Mark Beeman), 2019
- Linguistics 221: Language & Prejudice (Prof. Erin Leddon), 2019

NON-ACADEMIC EMPLOYMENT

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

Summer 2020

Language Engineering Intern, Transcendental Endeavors, NY, NY, USA

Summer 2016

Software Developer in Test Intern, Microsoft, Redmond, WA, USA

Summer 2013

Operations Analyst, Goldman Sachs, Multiple Locations, USA

2008–2011

DEPARTMENTAL SERVICE

Co-organizer, Northwestern Text Analytics Working Group

2018–Present

Founder, Northwestern NLP Group

2017–2018

Founder, Linguistics Deep Learning Reading Group

2017–Present

Web & Social Media Coordinator, Linguistics

2017–Present

Colloquium Reception Committee, Linguistics

2016–2017

PROFESSIONAL ACTIVITIES

Diversity & Inclusivity Committee, NAACL 2019, Committee Member

DevSci Cluster, Northwestern University, Member

Institute of Electrical and Electronics Engineers (IEEE), Member

Linguistic Society of America (LSA), Member

Association for Computational Linguistics (ACL), Member

Financial Industry Regulatory Authority (FINRA), Member

LANGUAGES

Computer—Java, Python, R (ggplot2, plotly, lme4), C++, VBA, C#, L^AT_EX, MATLAB/Octave
Human—American Sign Language (ASL), Hebrew, Latin