JAMES V. BRUNO

Department of Library and Information Science
Rutgers University
4 Huntington Street
New Brunswick, NJ 08901
james.v.bruno@rutgers.edu

TECHNICAL INSTRUCTION AREAS

Python
Object-Oriented Programming
Linux and Shell
Machine Learning
Artificial Intelligence Theory and Practice
Data Engineering

INDUSTRY EXPERIENCE

11/2024 – 2/2026 School Assessments, Pearson Inc. (Remote)

AI Scientist

As an AI scientist, I led the research, design, development, and implementation of AI technology to support writing instruction and evaluation in K-12 classrooms. I also supported work on automated scoring of standardized state assessments in English Language Arts.

2013 – 2024 Educational Testing Service, Princeton, NJ

AI Engineer	**10/2023 – 11/2024**
Associate Research Engineer	**2/2021 – 10/2023**
Assistant Research Engineer	**9/2018 – 2/2021**

In these engineering roles, I developed the code and infrastructure for AI-driven educational technology applications and automated scoring pipelines in English, Spanish, and German. In my senior roles, I provided mentoring and coaching to junior engineers.

NLP Research Associate	**11/2017 – 9/2018**
Senior NLP Research Assistant	**8/2015 – 11/2017**
NLP Research Assistant	**9/2013 – 8/2015**

In these research roles, I supported and carried out foundational and applied research in natural language processing in educational contexts.

2002 – 2013 **The Philadelphia Orchestra Association, Philadelphia, PA**

SQL Developer **9/2012 – 9/2013**
Database Analyst **2002 - 2006**

In these database-related roles, I created custom business intelligence solutions for a consortium of performing arts organizations throughout the city of Philadelphia and I provided application and database support for various customer relations management systems.

TEACHING

Rutgers University, New Brunswick, NJ

Department of Information and Library Science

Fall, 2026	04:547:202 Object-Oriented Programming
	04:547:221 Fundamentals of Data Curation and Management

Department of Linguistics

Fall, 2010; Spring, 2011	01:615:201 Introduction to Linguistic Theory (TA for Paul de Lacy)

Department of Spanish and Portuguese

Fall, 2009	01:940:363 Bilingualism in the Spanish Speaking World
Spring, 2010	01:940:421 Spanish Syntax
Summer, 2010	Assistant Director, Study Abroad Program in Peru
	Primary responsibility was the safety and well-being of 20 undergraduates during a six-week study abroad program in Peru.

EDUCATION

2022 **M.S. in Computational Linguistics**, University of Washington, Seattle, WA

2013 **M.A in Theoretical Linguistics**, Rutgers University, New Brunswick, NJ

2006 **B.A in Spanish and Linguistics**, Temple University, Philadelphia, PA,
Summa Cum Laude

PUBLICATIONS

Bruno, J. & Becker, L. (2025). Explainable Writing Scores via Fine-grained, LLM-Generated Features. *Proceedings of the Artificial Intelligence in Measurement and Education Conference (AIME-Con): Works in Progress*, 155–165. [Available at https://aclanthology.org/2025.aimecon-wip.19.pdf].

Deane, P., Yan, D., Castellano, K., Attali, Y., Lamar, M., Zhang, M., Blood, I., **Bruno, J.**, Li, C., Cui, W., Ruan, C., Appel, C., James, K., Long, R. and Qureshi, F. (2024). Modeling Writing Traits in a Formative Essay Corpus. *ETS Research Report Series, 2024*(1), 1–62. [Available at https://onlinelibrary.wiley.com/doi/full/10.1002/ets2.12377]

Yi, D., **Bruno, J**., Han, J., Zukerman, P., Steinert-Threlkeld, S. (2022). Probing for Understanding of English Verb Classes and Alternations in Large Pre-trained Language Models. *Proceedings of the Fifth BlackboxNLP Workshop on Analyzing and Interpreting Neural Networks for NLP*, 142–152. [Available at https://aclanthology.org/2022.blackboxnlp-1.12/]

Cahill, A., **Bruno, J.**, Ramey, J., Meneses, G., Blood, I., Tolentino, F., Lavee, T., & Andreyev, S. (2021). Supporting Spanish Writers using Automated Feedback. In *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies: Demonstrations*, pp. 116–124. [Available at https://aclanthology.org/2021.naacl-demos.14.pdf]

Wang, X., Evanini, K., **Bruno, J**., & Mulholland, M. (2021). Systems and methods for automatic detection of plagiarized spoken responses [US Patent 11,094,335].

Wang, X., Evanini, K., Mulholland, M., Qian, Y., & **Bruno, J.** (2019). Application of an automatic plagiarism detection system in a large-scale assessment of English speaking proficiency. *Proceedings of the Fourteenth Workshop on Innovative Use of NLP for Building Educational Applications,* 435–443. [Available at: https://aclanthology.org/W19-4445/]

Wang, X., Gyawali, B., **Bruno, J**., Molloy, H., Evanini, K., & Zechner, K. (2019). Using Rhetorical Structure Theory to assess discourse coherence for non-native spontaneous speech. In *Proceedings of the Workshop on Discourse Relation Parsing and Treebanking*, 153–162. [Available at https://aclanthology.org/W19-2719/]

Wang, X., Gyawali, B., **Bruno, J.**, Molloy, H., Evanini, K., & Zechner, K. (2018). Discourse Modeling of Non-Native Spontaneous Speech Using the Rhetorical Structure Theory Framework. *2018 IEEE Spoken Language Technology Workshop (SLT)*, 913–920. [Available at https://ieeexplore.ieee.org/document/8639509]

Loukina, A., Zechner, K., **Bruno, J**., & Klebanov, B. B. (2018). Using exemplar responses for training and evaluating automated speech scoring systems. *Proceedings of the Thirteenth Workshop on Innovative Use of NLP for Building Educational Applications,* 1–12). [Available at https://aclanthology.org/W18-0501/]

Evanini, K., Timpe-Laughlin, V., Tsuprun, E., Blood, I., Lee, J., **Bruno, J.,** Ramanarayanan, V., Lange, P., & Suendermann-Oeft, D., (2018). Game-based spoken dialog language learning applications for young students. *Proceedings from the 2018 Interspeech conference*, Hyderabad, India. [Available at https://www.isca-speech.org/archive_v0/Interspeech_2018/pdfs/3045.pdf]

Wang, X., **Bruno, J.**, Molloy, H., Evanini, K., & Zechner, K. (2017). Discourse Annotation of Non-native Spontaneous Spoken Responses Using the Rhetorical Structure Theory Framework. *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics,* 263–268, Vancouver, Canada. Available at [http://aclweb.org/anthology/P17-2041]

Timpe-Laughlin, V., Lee, J., Evanini, K., **Bruno, J**, & Blood, I. (2017). Can you guess who I am?: An interactive task for young learners to practice yes/no question formation in English. In *Proceedings of the 6th Workshop on Child Computer Interaction (WOCCI 2017)*, 62–67. [Available at https://www.isca-speech.org/archive_v0/WOCCI_2017/pdfs/WOCCI_2017_paper_12.pdf]

Bruno, J., Cahill, A., & Gyawali, B. (2016). A Protocol for Annotating Parser Differences. *ETS Research Report Series*, *2016*(1), 1–12. [Available at https://onlinelibrary.wiley.com/doi/full/10.1002/ets2.12086]

Wang, X., Evanini, K., **Bruno, J**., & Mulholland, M. (2016). Automatic plagiarism detection for spoken responses in an assessment of English language proficiency. In *Proceedings of the IEEE Workshop on Spoken Language Technology (SLT 2016)*, pp. 121–128, San Diego, CA. [Available at https://ieeexplore.ieee.org/document/7846254]

Lee, C., Lopez, M. Yoon, S., Andrews, C., and **Bruno, J**. (2015). Automated Video Filtering for the Language Proficiency Test. *Proceedings of The 2015 Computer Assisted Language Learning and Instruction Consortium (CALICO)*, Boulder, CO.

Cahill, A., Gyawali, B., & **Bruno, J**. (2014). Self-Training for Parsing Learner Text. *Proceedings of the First Joint Workshop on Statistical Parsing of Morphologically Rich Languages and Syntactic Analysis of Non-Canonical Languages (SPMRL-SANCL)*, 66–73, Dublin, Ireland. [Available at: http://www.aclweb.org/anthology/W14-6106]

Bruno, J. V. (2011). Absolute constructions: Telicity, abstract case, and micro-variation. *Selected Proceedings of the 13th Hispanic Linguistics Symposium,* 264–274. [Available at: http://www.lingref.com/cpp/hls/13/paper2493.pdf]