

Giselle Zeno, PhD

Artificial Intelligence (AI) Staff Research Scientist

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Education

Ph.D., Computer Science

Purdue University

Awards: GEM Fellowship, Intel Scholar, Frederick N. Andrews Fellowship

August 2023

Advisor: Jennifer Neville

M.S., Computer Science

Purdue University

December 2021

B.S., Computer Science

University of Puerto Rico, Bayamón

August 2010

Awards: Magna Cum Laude, Honors Program Scholarship, Computer Science Model Student Award (2009)

Research Experience

MIT Lincoln Laboratory

Technical Staff

January 2024 – Present

Lexington, MA, USA

- Designed and led systematic study to elicit possible causes for large multimodal models (LMMs) poor performance on compositionality and spatial reasoning tasks. The standard evaluation using multiple choice question (MCQ) is found to be flawed due to option selection biases in LMMs. This work resulted in one publication (*Best Paper Award*) and two invited talks (RAAINS 2024, BEAM/CVPR 2025).
- Advised and collaborated on research projects for author verification. Coauthored work on using graph-based approaches for this task, resulting in invited talks (RAAINS 2024). We found that our proposed method can increase AUC scores to 0.96 and requires 8x less training data for results comparable to the state-of-the-art models in the text modality.
- Collaborated on research projects with other research groups and divisions at the laboratory.
- Reported on ongoing research efforts and current findings to sponsoring agencies.
- Coauthored grant proposals for internal funding of research projects.
- Supervised and mentored co-op students and summer interns, guiding research projects.
- Coauthored workshop proposals and served as organizer, overseeing the peer review process.
- Interviewed candidates for various groups and divisions.
- Supported recruitment events at various university career fairs.

Purdue University

Graduate Research Assistant

August 2014 – August 2023

West Lafayette, IN, USA

- Independently designed and developed generative models and evaluation metrics for temporal data, including textual attributes by extending NLP techniques for embedding topic extraction and fine-tuning language models.
- Designed and carried out a systematic study of collective inference model performance on networks, using network generative models to create varied synthetic data.
- Demonstrated ability to work with minimal supervision, taking full ownership of research projects.
- Conducted extensive literature reviews to identify gaps and establish foundation for research projects.
- Developed research proposals, outlining objectives, methodologies, and expected outcomes.
- Successfully wrote and submitted grant proposals, securing funding for research projects.
- Co-authored multiple papers published at esteemed Data Mining and Machine Learning conferences, and workshops (e.g., CIKM, WWW, MLG).
- Presented research findings and insights as invited speaker at conferences and research labs.
- Mentored students by offering constructive feedback and engaging in research discussions, fostering an environment of collaboration.

Lawrence Livermore National Laboratory

Graduate Research Intern

May 2018 – August 2018

Livermore, CA, USA

- Conducted extensive literature review and critically analyzed existing research to identify gaps and opportunities for further investigation.
- Independently formulated and developed a novel model for motif evolution in dynamic networks.
- Designed and executed experiments, collecting and analyzing data to validate the proposed model and methodology.
- Presented the research project to a diverse audience at the conclusion of the internship, effectively communicating complex concepts and research outcomes.
- Continued research collaboration after internship conclusion, resulting in two publications.

MIT Lincoln Laboratory

Graduate Research Intern

June 2015 – August 2015

Lexington, MA, USA

- Implemented collective inference models for social networks with unbalanced class labels.
- Collaborated closely with a team of researchers to develop and refine the research methodology and experimental protocols.
- Implemented the research methodology, conducted experiments, and analyzed data to validate findings.
- Presented the research findings to colleagues and research professionals, effectively communicating the significance and impact of the work.
- Contributed to the development of a journal paper based on research findings.
- Continued research collaboration after internship conclusion, resulting in an additional publication.

Publications

Josué Martínez-Martínez, Olivia Brown, **Giselle Zeno**, Pooya Khorrami, Rajmonda Caceres. 2025. From Snow to Rain: Evaluating Robustness, Calibration, and Complexity of Model-Based Robust Training. *Forthcoming in Journal of LatinX in AI Research (JLXAIR), LatinX in AI Research Workshop (NeurIPS 2025)*.

Giselle Zeno, Nour Jedidi, and Steven R Gomez. 2025. Choosing ‘Right’ from Wrong: A Closer Look at Selection Bias in Spatial Multiple-Choice Questions in Large Multimodal Models. In *Proceedings of the Computer Vision and Pattern Recognition Conference (CVPR) Workshops*, 535–544. (**Best Paper Award**, BEAM Workshop)

Giselle Zeno. 2023. Dynamic Network Modeling from Temporal Motifs and Attributed Node Activity. *Purdue University Graduate School*. <https://doi.org/10.25394/PGS.23782239.v1>

Giselle Zeno and Jennifer Neville. 2023. DYANE: DYnamic Attributed Node rolEs Generative Model. In *Proceedings of the 32nd ACM International Conference on Information and Knowledge Management (CIKM ‘23)*, 3144–3153. <https://doi.org/10.1145/3583780.3614858>

Giselle Zeno, Timothy La Fond, and Jennifer Neville. 2021. DYMOND: DYnamic MOTif-NoDes Network Generative Model. In *Proceedings of the Web Conference 2021 (WWW ‘21)*, 718–729. <https://doi.org/10.1145/3442381.3450102> (**40+ Citations**)

Giselle Zeno, Timothy La Fond, and Jennifer Neville. 2020. Dynamic Network Modeling from Motif-Activity. In *Companion Proceedings of the Web Conference 2020 (WWW ‘20)*, 390–397. <https://doi.org/10.1145/3366424.3383301>

Giselle Zeno and Jennifer Neville. 2016. Investigating the impact of graph structure and attribute correlation on collective classification performance. *12th International Workshop on Mining and Learning with Graphs (MLG), co-located with 22nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining*

Richard P Lippmann, William M Campbell, David J Weller-Fahy, Alyssa C Mensch, **Giselle M Zeno**, and Joseph P Campbell Jr. 2016. Finding Malicious Cyber Discussions in Social Media. *Lincoln Laboratory Journal*, vol. 22, no. 1. (**35+ Citations**)

Presentations

Invited Talks

(*denotes presenting author)

- **G Zeno***. “Do’s and Don’ts in the Agentic AI Era”. (**Featured Speaker, Technical Track**)
2026 Caribbean AI Summit Aug 2026
- **G Zeno***. “Does Your AI Really See What You Think It Sees?”.
2026 IEEE Young Professionals Summit Aug 2026
- **G Zeno***, N Jedidi, SR Gomez. “Choosing ‘Right’ from Wrong: A Closer Look at Selection Bias in Spatial Multiple-Choice Questions in Large Multimodal Models”. (**Best Paper Presentation**)
Benchmarking and Expanding AI Multimodal Approaches Workshop (BEAM/CVPR ‘25) Jun 2025
- **G Zeno***, N Jedidi*. “Towards Eliciting Spatial Reasoning without Bias from Generative Vision-Language Models”. *Human-Machine Teaming Course (RAAINS ‘24)* Nov 2024
- **G Zeno***. “Dynamic Network Modeling from Temporal Motifs and Node Roles”. (**Speaker & Panelist**)
DynaMo: Dynamics and motifs satellite (Networks ‘21) Jun 2021

Oral Presentations

- A Smith, **G Zeno***. “Exploiting Graph Structure for Author Verification”. (**Lightning Talk**)
Recent Advances in Artificial Intelligence for National Security Workshop (RAAINS ‘24) Nov 2024
- **G Zeno***, J Neville. “DYANE: Dynamic Attributed Node rolEs Generative Model”.
International Conference on Information and Knowledge Management (CIKM ‘23) Oct 2023
- **G Zeno***, T La Fond, J Neville. “DYMOND: DYnamic MOTif-NoDes Network Generative Model”.
The Web Conference (WWW ‘21) Apr 2021
- **G Zeno***, T La Fond, J Neville. “Dynamic Network Modeling from Motif-Activity”.
Mining Actionable Insights on Social Networks Workshop (MAISoN/WWW ‘20) Apr 2020
- **G Zeno***, J Neville. “Investigating the Impact of Graph Structure and Attribute Correlation on Collective Classification Performance”.
Mining and Learning with Graphs Workshop (MLG/KDD ‘16) Aug 2016

Poster Presentations

- A Smith, **G Zeno***. “Exploiting Community Structure for Author Verification”.
Graph Exploitation Symposium (GraphEx ‘24) May 2024
- **G Zeno***. “Dynamic Model for Motif Evolution”.
Student Symposium, Lawrence Livermore National Laboratory Jul 2018
- **G Zeno***, J Neville. “Impact of Graph Structure and Attribute Correlation on Collective Classification”.
NSF STC visit, Center for Science of Information, Purdue University Dec 2015

Professional Activities and Service

Organizing Chair	2 nd Synthetic & Adversarial ForEnsics Workshop (SAFE @ CVPR 2026)	2026
Technical Committee	Graph Exploitation Symposium (GraphEx 2026)	2026
Reviewer	ACM Conference on Knowledge Discovery and Data Mining (KDD)	2026
Organizing Chair	1 st Synthetic & Adversarial ForEnsics Workshop (SAFE @ WACV 2026)	2026
Invited Reviewer	IEEE Transactions on Computational Social Systems Journal	2025
Technical Committee	Graph Exploitation Symposium (GraphEx 2025)	2025
Invited Reviewer	IEEE Transactions on Computational Social Systems Journal	2024
Reviewer	Tapia Conference	2024, 2026
Senior Member	IEEE	2024–Present
Member	ACM	2023–Present
Associate Member	Sigma Xi	2026–Present

Awards and Honors

Best Paper Award	BEAM Workshop, CVPR	2025
STC Workshop Winning Proposal	NSF Center for Science of Information, Purdue University	2016
Intel Scholar	Intel Corp.	2014
GEM Fellowship	GEM Consortium and Intel Corp.	2014
Frederick N. Andrews Fellowship	Graduate School, Purdue University	2014
Magna Cum Laude	University of Puerto Rico Bayamón	2010
Model Student	Department of Computer Science, University of Puerto Rico	2009
Honors Program Scholarship	University of Puerto Rico Bayamón	2006–2010
Dean's List	University of Puerto Rico Bayamón	2006–2010

Industry Experience

Intel Corp. <i>Software Engineer Graduate Intern</i>	<i>April 2014 – August 2014</i> <i>Santa Clara, CA, USA</i>
Consulting Services <i>Senior Software Engineer</i>	<i>May 2013 – April 2014</i> <i>San Juan, PR</i>
Evertec Inc. <i>Senior Programmer</i>	<i>January 2013 – May 2013</i> <i>San Juan, PR</i>
First BanCorp <i>Programmer Analyst</i>	<i>June 2011 – January 2013</i> <i>San Juan, PR</i>
PGES <i>Lead Software Developer & Analyst</i>	<i>July 2009 – June 2011</i> <i>San Juan, PR</i>
Google <i>Software Engineer Intern</i>	<i>May 2008 – August 2008</i> <i>Mountain View, CA, USA</i>

Biographical Summary

Dr. Giselle Zeno is a technical staff member in the Artificial Intelligence Technology and Systems Group at MIT Lincoln Laboratory. Her research interests are in machine learning and data mining, particularly focusing on graphs, temporal processes, and generative models. Her primary work involves developing and analyzing algorithms for relational domains, including social, information, and communication networks, with applications to real-world tasks.

Dr. Zeno has authored multiple papers for conferences and workshops in data mining and machine learning, specifically on collective inference methods and generative models for temporal graph-structured and multi-modal data. She was also an invited speaker at the Networks 2021 DynaMo satellite conference, where she discussed her research on dynamic network modeling using temporal motifs and node roles. Furthermore, she has served as an organizing chair for the Synthetic & Adversarial ForEnsics (SAFE) Workshop, as a technical committee member for the Graph Exploitation (GraphEx) Symposium, and as a reviewer for the IEEE Transactions on Computational Social Systems Journal, the ACM Conference on Knowledge Discovery and Data Mining (KDD), the Tapia Conference, and other workshops. She is an IEEE Senior Member and a member of the ACM and Sigma Xi professional societies. Prior to her career as an AI and ML researcher, she worked in industry as a senior software engineer.

Dr. Zeno earned her BS degree in computer science from the University of Puerto Rico at Bayamón in 2010, graduating magna cum laude. She was named Model Student by the Department of Computer Science in 2009 and received the Honors Program scholarship throughout her degree, from 2006 to 2010. She completed her MS and PhD degrees in computer science at Purdue University in 2021 and 2023, respectively. Her doctoral studies were supported by the GEM Fellowship, sponsored by Intel Corporation, and the Frederick N. Andrews Fellowship from Purdue University.