Sarah Brogden Payne

Department of Linguistics and Institute for Advanced Computational Science

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Education

Degree-seeking programs

Stony Brook University   *Stony Brook, NY*
Ph.D., Linguistics   *Entered Fall 2022*
- Institute for Advanced Computational Science Graduate Research Fellow

University of Pennsylvania   *Philadelphia, PA*
B.A., Linguistics & Computer and Information Science, *Summa Cum Laude*   *May 2022*
- Minor: Cognitive Science
- Honors thesis: "When Collisions are a Good Thing: the Acquisition of Morphological Marking" advised by Dr. Charles Yang

Non-degree-seeking programs

Indiana University Bloomington   *Bloomington, IN*
Dual Enrollment, Math & Computational Linguistics   *2017-18*
- GPA: 4.0/4.0

Awards & Fellowships

2022	**Paula Menyuk Travel Award,** Boston University Conference on Language Development
2022	**Graduate Fellow,** NSF Graduate Research Fellowships Program
2022	**Graduate Fellow,** Institute for Advanced Computational Science Graduate Research Fellowship
2022	**Dean's Scholar,** University of Pennsylvania
2022	**Henry Hoenigswald Thesis Prize in Linguistics,** University of Pennsylvania
2022	**Honorable Mention,** NDSEG Graduate Fellowship
2021	**Elected to Phi Beta Kappa,** University of Pennsylvania
2018-19, 2021-22	**Dean's List,** University of Pennsylvania (*Temporarily discontinued due to COVID-19*)

Publications

Articles

Sarah Payne and Charles Yang (to appear). *Making Good on BADS*. Italian Journal of Linguistics

Conference Proceedings[1]

Sarah Payne (to appear). *Contrast, Sufficiency, and the Acquisition of Morphological Marking.* Proceedings of the 47th annual Boston University Conference on Language Development.

Caleb Belth, **Sarah Payne**, Deniz Beser, Jordan Kodner, & Charles Yang (2021). *The Greedy and Recursive Search for Morphological Productivity.* Proceedings of the 43rd Annual Meeting of the Cognitive Science Society. 42(1):2869-2875.

Deniz Beser, Joe Cecil, Marjorie Freedman, Jacob Lichtefeld, Mitch Marcus, **Sarah Payne**, & Charles Yang (2021). *A Grounded Approach to Modeling Generic Knowledge Acquisition.* Proceedings of the 43rd Annual Meeting of the Cognitive Science Society. 42(1):2450-2456.

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[1]Proceedings published in the ACL conference and workshop anthologies are refereed and archival. Proceedings of the Cognitive Science Conference are refereed but non-archival.

Sarah Payne, Jordan Kodner, & Charles Yang (2021). *Learning Morphological Productivity as Meaning-Form Mappings.* Proceedings of the Annual Meeting of the Society for Computation in Linguistics. 4(1):177-187.

Manuscripts

Sarah Payne (2022). *When Collisions are a Good Thing: the Acquisition of Morphological Marking.* Senior Thesis in Linguistics, University of Pennsylvania.

Ryan Gabbard, Deniz Beser, Jacob Lichtefeld, Joe Cecil, Mitch Marcus, **Sarah Payne**, Charles Yang, & Marjorie Freedman (2021). *ADAM: A Sandbox for Implementing Language Learning.* ArXiv, abs/2105.02263.

Presentations

Sarah Payne (2022). *Contrast, Sufficiency, and the Acquisition of Morphological Marking*. Talk given at the 47th annual Boston University Conference on Language Development.

Sarah Payne, Caleb Belth, Jordan Kodner, & Charles Yang (2022). *Searching for Morphological Productivity*. Talk given at the 96th Meeting of the Linguistics Society of America.

{Caleb Belth, **Sarah Payne**}, Jordan Kodner, & Charles Yang (2021). *Searching for Morphological Productivity*. Talk given at the 46th annual Boston University Conference on Language Development.

Sarah Payne, Caleb Belth, Jordan Kodner, & Charles Yang (2021). *The Recursive Search for Morphological Productivity*. Poster presented at the 5th Annual American International Morphological Meeting.

Sarah Payne, Peng Qian, Ethan Wilcox, & Roger Levy (2021). *Particle Filtering with Neural Language Models: Modelling the Effects of Memory on Incremental Sentence Processing*. Poster presented at the MIT Center for Brains, Minds and Machines Summer Research Poster Session.

Ryan Gabbard, Jacob Lichtefeld, Deniz Beser, Joe Cecil, Mitch Marcus, **Sarah Payne,** Charles Yang, & Marjorie Freedman (2021). *Grounding Word Learning Across Situations*. Poster presented at the 43rd Annual Meeting of the Cognitive Science Society.

Sarah Payne (2019). *Categorization of Novel Referents by a Seeing Eye Dog*. Talk given at the University of California Berkeley Undergraduate Linguistics Symposium.

Sarah Payne & Chris Callison-Burch (2019). *From Word Meaning to Phrase Meaning: Compositionality*. Poster presented at the University of Pennsylvania Center for Undergraduate Research Poster Session.

Projects

Center for Brains, Minds, and Machines Summer Research Fellow, MIT *Cambridge, MA*
Advisor: Dr. Roger Levy *2021*
- Modeled working memory limitations on incremental processing of garden-path sentences with surprisal

Research Assistant Intern, Information Sciences Institute (ISI) *Waltham, MA*
Advisors: Dr. Ryan Gabbard & Dr. Marjorie Freedman *2020*
- Helped develop a cognitively-plausible learner that learns from concrete situations and syntactic bootstrapping and implemented this model in Mandarin Chinese

Visiting Research Assistant *College Park, MD*
Advisor: Dr. Dan Swingley, Dr. Thomas Schatz, & Dr. Naomi Feldman *2020*
- Used bottleneck features in Kaldi to develop phone embeddings that can be tested against human judgement

Research Assistant, Infant Language Center *Philadelphia, PA*
Advisor: Dr. Dan Swingley *2019-20*
- Created phoneme embeddings based on Bottleneck Features that are optimized to mimic the perception of an infant

Penn Undergraduate Research Mentoring Program (PURM) *Philadelphia, PA*
Advisor: Dr. Chris Callison-Burch *2019*
- Developed multimodal phrase embeddings by incorporating visual and syntactic for a 20% improvement on test accuracy.

Research Assistant, Multimodal Embeddings *Philadelphia, PA*
Advisor: Dr. Chris Callison-Burch *2018-19*
- Created multi-modal word embeddings by imagining mappings from words to images

Teaching Experience

Fall 2021	**CIS 380: Operating Systems,** Teaching Assistant, *University of Pennsylvania*
Spring 2021	**CIS 240: Intro to Computer Architecture,** Teaching Assistant, *University of Pennsylvania*
Fall 2020	**NETS 212: Scalable and Cloud Computing,** Teaching Assistant, *University of Pennsylvania*
Spring 2019	**CIS 192: Intro to Python,** Teaching Assistant, *University of Pennsylvania*

Service and Outreach

Academic Service

Reviewing
Conferences: *2021-present*
- Cognitive Science Conference
- Conference on Empirical Methods in Natural Language Processing (EMNLP)
- Asia-Pacific Association of Computational Linguistics Conference (AACL)
- European Chapter of the Association of Computational Linguistics (EACL)
- Association of Computational Linguistics (ACL)

Session Chair *Stony Brook, NY*
Workshop on Model Theoretic Representations in Phonology *September 2022*

Invited Panelist: Navigating the Grad School Application Process *Arizona State University*
ASU Student Organization for Inclusion, Diversity, Education, and Advocacy *November 2022*

Student member
Justice, Equity, Diversity and Inclusion Committee in Linguistics *2022-present*

Social Media Manager
Institute for Advanced Computational Science *2022-present*

Other Service

Alumna Interviewer *Suffolk County, NY*
University of Pennsylvania *2022-present*
- Interview prospective undergraduates for admission to the University of Pennsylvania

Elected Member, University Council *Philadelphia, PA*
University of Pennsylvania *2021-22*
- Elected to represent the concerns and voices of the anti-violence community and survivors to university administrators

Chair, Abuse and Sexual Assault Prevention (ASAP) *Philadelphia, PA*
University of Pennsylvania *2021-2022*
- Lead board and general meetings and collaborations; co-host Take Back the Night with other universities in Philadelphia

Other

Memberships

Linguistic Society of America, Student Member

Languages

Native: British and American English
Intermediate: Spanish, Latin

Technical Skills

Proficient: Python, C, C++, Git, Bash, Linux
Intermediate: Java, R, LaTex, Amazon Web Services
Beginner: JavaScript, HTML/CSS