CV

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Summary

I am an early career researcher (PhD earned in May 2019) with two publications submitted and another in preparation. I have given presentations at multiple international peer-reviewed conferences across various disciplines: sign language linguistics, neurolinguistics, and psycholinguistics. I am highly experienced in using experimental and computational methods, including large-scale online linguistic surveys, and custom-built machine learning analyses to answer theoretical challenges. My extensive project management skills are demonstrated through five years of managing the Sign Language & Linguistics Lab at Purdue University, including the execution of lab experiments, and the supervision and mentorship of undergraduate researchers. I am currently an independent researcher working on writing publications, and the modeling of non-signer inferences about grammatical information contained in lexical verbs in American Sign Language.

Education

2013 - 2019	**PhD in Linguistics**, Purdue University, Linguistics Program. Dissertation: *Transparency of transitivity in pantomime, sign language* [PDF]
2010 - 2013	**MA in Linguistics**, Purdue University, Linguistics Program. Thesis: *Motion events and event segmentation in American Sign Language* [PDF]
2005 - 2009	**BA (cum laude), Independent Scholar in Linguistics,** Middlebury College. Thesis: *A theoretical look at the Person Agreement Marker in German Sign Language*

Academic employment

2013 - 2018	**Manager, Sign Language & Linguistics Lab** Supervised teams of up to 10 researchers (training, project management, task priority); Involved in researcher recruitment, evaluation and retention; Assisted researchers in developing research projects and writing them up; Managed subject recruitment (and retention in longitudinal studies); Managed data collection and storage; Analyzed data; Managed ethics compliance
2017	**Research Assistant, Alejandro Cuzo, Purdue University** [website] Edited articles and book chapters for publication (non-native English). Designed the Second Language Acquisition Research Lab's website.
2011 - 2018	**Teaching Assistant** and **Instructor** (see **Teaching**)

Publications and manuscripts

submitted	a. **Bradley, C.**, Malaia, E., Siskind, J. M. and R. B. Wilbur. Visual form of ASL verb signs predicts non-signer judgment of transitivity. Submitted to *Journal of Experimental Psychology: Learning, Memory, and Cognition*. [manuscript]. b. Karabüklü1, S., Wood, S. Sandra , **Bradley, C.**, Wilbur, R. B. , and E. A. Malaia. Sign language learning increases temporal resolution of visual attention. Submitted to *Visual Cognition*. [manuscript]
in prep.	Bradley, C. Visual form and event semantics predict transitivity in pantomimed actions: Evidence for compositionality. Target journal: *Trends in cognitive science*, to be submitted Fall 2020. [manuscript]
diss.	Bradley, C. 2019. Transparency of transitivity in pantomime, sign language. (Doctoral dissertation). Purdue University West Lafayette, IN. [PDF]

Presentations at peer-reviewed conferences

2021
Compositionality in holistic pantomime characterizes a gesture-first protolanguage. Talk to be given at *Expression, Language, and Music* 1. Hartford, CT, USA. May, 2021.

2020
a. Evidence for argument structure in the form of pantomime. Poster to be presented at *Experiments in Linguistic Meaning* 1. Philadelphia, PA, USA. September, 2020.
b. Evidence for subunit structure when gesturers communicate in/transitive actions. Poster presented at the CUNY Conference on Human Sentence Processing 33. Amherst, MA, USA. March, 2020. [poster]

2018
Can formal features be predicted from form? Using Machine Learning to predict transitivity class from the form of pantomime and ASL classifier constructions. Poster presented at Formal and Experimental Advances in Sign Language Theory 7. Venice, IT. June, 2018. [abstract]

2017
a. with Siskind, J.M., and R. Wilbur. Neural representation of minimal syntactic units. Poster presented at Cognitive Computational Neuroscience 1. New York, NY, USA. August, 2017. [abstract]
b. with H. Nassar. Rapid processing of ELAN data: Quick and dirty numbers for statistical analysis. Poster presented at Formal and Experimental Approaches to Sign Language Theory 6. Reykjavik, Iceland. June, 2017. [abstract]

Select software and projects

Used expertise in computational linguistics and research programming to conceive and script software for improved data (pre-)processing and analysis. Selected projects include:

2020
ELAN-overlap [https://github.com/C-huck/ELAN-overlap]
(completed) Extracts temporal information about annotations on different tiers in ELAN, a video annotation tool. Useful for quantifying simultaneous data, such as gesture+speech (gesture studies), speech+touch (infant word learning studies), manual+non-manual action (sign language studies), among other applications.

2019
a. **ASL-LEX-iconicity** [https://github.com/C-huck/ASL-LEX-iconicity]
Simplified analysis showing how to use machine learning techniques to classify lexical category information from a small corpus of ASL signs (ASL-LEX.org). Algorithm infers lexical category information from both visual and lexical information.
b. **simple-tracker** [https://github.com/C-huck/simple-tracker]
Computes Lucas-Kanade optical flow for a user-defined point within a user drawn window. The algorithm attempts to track that point across all frames in the video. The point's total displacement is overlaid on top of the video, as well as the path it traces. Creates a `.csv` file of displacement information. An arbitrary number of points may be tracked. Useful for determining overall 2D displacement of, e.g., hands across a video. Can also be used to track relative movement (e.g., of one hand with respect to the other).
c. **video-segment** [https://github.com/C-huck/video-segment]
Short heuristic to automatically find and clip gestures in unsegmented video. Identified clips are then ready for analysis, or inclusion in, e.g., perception studies.

Teaching

as **Primary Instructor**

2016 - 2018	Syntax and Semantics, Purdue University (3 semesters) Created all course materials; Taught all sections; Sole grader
2015 - 2016	Introduction to Linguistics, Purdue University (2 semesters) Created all course materials; Taught all sections; Sole grader

as **Teaching Assistant**

2011 - 2015	Introduction to Linguistics, Purdue University (4 semesters) Grader; Helped create exams, study guides American Deaf Community: Language, Culture, and Society, Purdue University (1 semester) Grader; Helped create exams, study guides American Sign Language levels 1, 2, and 4, Purdue University(3 semesters; volunteer) Grader and proctoring; Occasional guest lecturer

Awards and grants

2018	Travel Grant, School of Interdisciplinary Studies, Purdue University ($1,000) To cover costs of attending FEAST7, Venice, IT
2013 - 2014	Lynn Fellowship, Interdisciplinary Studies, Purdue University ($45,518.50) [more information]
2010 - 2011	David M. Knox Fellowship, The Graduate School, Purdue University ($48,203.50) [more information]

Service

2013 - 2015	President, Purdue Linguistics Association (PLA) [website]
2012 - 2013	Secretary, PLA
2013, 2014	Co-chair, 9th & 10th Annual PLA Student Symposium; Co-editor of Proceedings of the 2014 PLA Symposium [proceedings]
2013	Reviewer, 9th Annual PLA Student Symposium

Languages

Natural	**Native:** English; **Intermediate:** American Sign Language; **Reading competency:** French; **Beginner:** Mandarin Chinese
Artificial	**Proficient:** Python (pandas, scikit-learn, opencv, wordnet/NLP, statsmodels, html/xml-processing, visualization), LaTeX(typesetting); **Well practiced:** HTML/CSS/PHP, Amazon Mechanical Turk API, MATLAB (signal processing, SPM8, visualization); **Working knowledge:** SQL; **Learning:** R

Skills

Neuroimaging	Primary operator GE 3T scanners with extensive scanning experience.
Software	ELAN (video annotation); MS Office/ Google Products (word processing, spreadsheets, etc.); FSL, AFNI, SPM (neuroimaging); ffmpeg (video/ audio editing) and ImageMagick (image editing)
Methodologies	Amazon Mechanical Turk, Qualtrics (survey); fMRI (neuroimaging); linguistic fieldwork/interview; corpus construction and analysis; general linear model, text classification/machine learning (analyses)

References

Ronnie Wilbur, Professor

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Evie Malaia, Associate Professor

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