Aaron Steven White

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Positions

Full-time appointments

Assistant Professor, Department of Linguistics, University of Rochester, 2017–.

Affiliations: Goergen Institute for Data Science, Computer Science, Brain and Cognitive Sciences

Postdoctoral Fellow, Science of Learning Institute, Johns Hopkins University, 2015–2017.

Advisors: Kyle Rawlins (Cognitive Science), Benjamin Van Durme (Computer Science)

Affiliations: Cognitive Science, Center for Language and Speech Processing

Temporary appointments

Instructor, European Summer School on Logic, Language, and Information, Summer 2017

Education

Ph.D. Linguistics, University of Maryland, College Park, 2015.

Thesis: Information and incrementality in syntactic bootstrapping

Advisors: Valentine Hacquard, Jeffrey Lidz

Other committee members: Philip Resnik, Hal Daumé III, Naomi Feldman

B.A. Linguistics, University of California, Santa Cruz, 2009.

Interests

Computational (psycho)linguistics, linguistic theory, syntax-semantics interface, first language acquisition

Awards

Grants

Subcontract Principal Investigator. DARPA BAA HR001117S0026-AIDA-FP-013, Multimodal Decompositional Semantics. \$3.3 million (contract); \$147,037 (subcontract). PI: Benjamin Van Durme; Co-PIs: Sanjeev Khudanpur, Kyle Rawlins, Raman Arora, Thomas Lippincott; Subcontract PI: Aaron Steven White. 2018–2022

Co-Principal Investigator. NSF-BCS-DDRIG-1456013, Doctoral Dissertation Research: Learning attitude verb meanings. \$18,112. PI: Valentine Hacquard, Co-PIs: Jeffrey Lidz, Aaron Steven White. 2015–2016

Fellowships

Distinguished Postdoctoral Fellowship, Science of Learning Institute, Johns Hopkins University, 2015–2017.

Graduate Fellowship, NSF-DGE-IGERT-0801465, Biological and Computational Foundations of Language Diversity, University of Maryland, 2011–2013.

Baggett Fellowship, Department of Linguistics, University of Maryland, 2009–2010.

Papers

In press

White, A. S., V. Hacquard, & J. Lidz. (2017). Semantic information and the syntax of propositional attitude verbs. In press at *Cognitive Science*.

White, A. S. & K. Rawlins. (2017). Question agnosticism and change of state. In press in the *Proceedings of Sinn und Bedeutung 21*.

White, A. S., V. Hacquard, & J. Lidz. (2017). The labeling problem in syntactic bootstrapping: Main clause syntax in the acquisition of propositional attitude verbs. In press in *Semantics in Acquisition*, eds. K. Syrett and S. Arunachalam. Trends in Language Acquisition Research (TiLAR). Amsterdam: John Benjamins Publishing Company.

Under revision

White, A. S. (2016). The interaction of implicativity with the form and scope of negation. Under revision for *Journal of Semantics*.

White, A. S., V. Hacquard, P. Resnik & J. Lidz. (2016). The contextual modulation of semantic information. Under revision for *Cognitive Science*.

Published

Lidz, J., A. S. White & R. Baier. (2017). The role of incremental parsing in syntactically conditioned word learning. *Cognitive Psychology* 97: 62-78.

White, A. S., K. Rawlins, & B. Van Durme. (2017). The Semantic Proto-Role Linking Model. *Proceedings of 15th Conference of the European Chapter of the Association for Computational Linguistics*, pages 92–98, Valencia, Spain, April 3-7, 2017.

White, A. S. & K. Rawlins. (2016). A computational model of S-selection. In *Semantics and Linguistic Theory* 26, eds. M. Moroney, C-R. Little, J. Collard, and D. Burgdorf, 641–663. Ithaca, NY: CLC Publications.

A. S. White, D. Reisinger, K. Sakaguchi, T. Vieira, S. Zhang, R. Rudinger, K. Rawlins, & B. Van Durme. (2016). Universal decompositional semantics on universal dependencies. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 1713–1723, Austin, Texas, November 1-5, 2016. [peer-reviewed proceedings]

Fetters, M. & A. S. White (2016). Pseudogapping does not involve heavy shift. In *Proceedings of the the 34th West Coast Conference on Formal Linguistics*, ed. A. Kaplan et al., 205-213. Somerville, MA: Cascadilla Proceedings Project.

Altshuler, D., V. Hacquard, T. Roberts, & A. S. White (2015). On double access, cessation and parentheticality. In *Semantics and Linguistic Theory* 25, eds. S. D'Antonio, C. Little, M. Moroney, and M. Wiegand, 18–37. Ithaca, NY: CLC Publications.

- **White, A. S.** (2014). Factive-implicatives and modalized complements. In *Proceedings of the 44th Meeting of the North East Linguistic Society*, eds. J. Iyer, L. Kusmer, 267–278. Amherst, MA: GLSA Publications.
- White, A. S. & Grano, T. (2014). An experimental investigation of partial control. In *Proceedings of Sinn und Bedeutung 18*, eds. U. Etxeberria, A. Falaus, A. Irurtzun, B. Leferman, 469–486. Semantics Archive.
- White, A. S., Dudley, R., V. Hacquard, & Lidz, J. (2014). Discovering classes of attitude verbs using subcategorization frame distributions. In *Proceedings of the 43rd Meeting of the North East Linguistic Society*, eds. H-L. Huang, E. Poole, A. Rysling, 249–260. Amherst, MA: GLSA Publications.
- Bonilla, C., Tare, M. & White, A. (2013). Homework and language learning at DLIFLC: An analysis of Dari, French, and Pashto learners. *Center for the Advanced Study of Language Technical Report*.
- Bonilla, C., Tare, M., **White, A.**, Mullan, B. & Hughes, M. (2013). Analysis of self-study practices in language learning: Relationships among time spent, preferred activities, and outcomes. *Center for the Advanced Study of Language Technical Report*.

Manuscripts

White, A. S., D. Reisinger, R. Rudinger, K. Rawlins, & B. Van Durme. (2016). Computational linking theory. arXiv:1610.1687806v1 [cs.CL]

Presentations

- Rudinger, R., A. S. White, & B. Van Durme. (2018). Neural Models of Factuality. Presented at the 2018 Conference of the North American Chapter of the Association for Computational Linguistics, New Orleans, LA, June 1-6, 2018.
- **White, A. S.** & K. Rawlins. (2017). The role of veridicality and factivity in clause selection. Presented at the 48th annual meeting of the North East Linguistic Society. University of Iceland. October 27-29, 2017.
- Hirzel, M., A. S. White, & J. Lidz. (2017). Biased distributions in dialogs do not shape verb learning. Presented at the 42^{nd} Boston University Conference on Language Development. Boston University. November 3-5, 2017.
- **White, A. S.**, P. Rastogi, K. Duh, & B. Van Durme. (2017). Inference is Everything: Recasting Semantic Resources into a Unified Evaluation Framework. Presented at the 8th International Joint Conference on Natural Language Processing. Taipei, Taiwan, November 27-December 1, 2017.
- White, A. S., K. Rawlins, & B. Van Durme. (2017). The Semantic Proto-Role Linking Model. Presented at the 15th Conference of the European Chapter of the Association for Computational Linguistics. Valencia, Spain. April 3-7, 2017.
- White, A. S. & K. Rawlins. (2017). Entropy predicts uncertainty in subcategorization frame distributions. Presented at the 39th Annual Conference of the German Linguistic Society, AG1: Information-theory based modeling of linguistic variation in context, Saarland University. March 8-10, 2017.

White, A. S., D. Reisinger, K. Sakaguchi, T. Vieira, S. Zhang, R. Rudinger, K. Rawlins, & B. Van Durme. (2016). Universal decompositional semantics on universal dependencies. Presented at Empirical Methods in Natural Language Processing 2016, Austin, TX. November 1-5, 2016.

- White, A. S. & K. Rawlins. (2016). Question agnosticism and change of state. Presented at Sinn und Bedeutung 21, University of Edinburgh. September 4-6, 2016.
- **White, A. S.** & K. Rawlins. (2016). A computational model of S-selection. Presented at Semantics and Linguistic Theory 26, University of Texas, Austin. May 12-15, 2016.
- Fetters, M. & A. S. White (2016). Pseudogapping does not involve heavy shift. Presented at the 34th West Coast Conference on Formal Linguistics, University of Utah. April 29-May 1, 2016.
- White, A. S. & J. Sprouse. (2016). The trace of categorical structure in gradient judgments. Presented at the 34th West Coast Conference on Formal Linguistics, University of Utah. April 29-May 1, 2016.
- **White, A. S.**, V. Hacquard, P. Resnik, & J. Lidz. (2016). Subcategorization frame entropy in online verb-learning. Presented at the 29th CUNY Conference on Human Sentence Processing, University of Florida. March 3-5, 2016.
- Altshuler, D., V. Hacquard, T. Roberts & White, A. S. (2015). On double access, cessation and parentheticality. Presented at Semantics and Linguistic Theory 25, Stanford University. May 15-17, 2015.
- White, A. S. (2015). Soft implicative entailments. Presented at the 89^{th} Annual Meeting of the Linguistic Society of America, Portland, OR. January 8-11, 2015.
- **White, A. S.** (2014). Contextually modulated syntactic variability in child-directed speech. Presented at the 13th International Congress for the Study of Child Language, Amsterdam, The Netherlands. July 14-18, 2014.
- **White, A. S.**, J. Lidz & V. Hacquard (2014). Syntactic sources of semantics and pragmatics. Presented at the 13th International Congress for the Study of Child Language, Amsterdam, The Netherlands. July 14-18, 2014.
- White, A. S. (2013). Factive-implicatives and modalized complements. Presented at the 44^{th} annual meeting of the North East Linguistic Society, University of Connecticut. October 18-20, 2013.
- White, A. S. & T. Grano (2013). An experimental investigation of partial control. Presented at Sinn und Bedeutung 18, University of the Basque Country. September 11-13, 2013.
- Lidz, J., & A. S. White (2013). Predictive parsing and the acquisition of thematic structure. Presented at the SRCD Biennial Meeting, Seattle, WA. April 18-20, 2013.
- White, A. S., R. Dudley, V. Hacquard, & J. Lidz (2012). Discovering classes of attitude verbs using subcategorization frame distributions. Presented at the 43^{rd} annual meeting of the North East Linguistic Society, CUNY. October 19-21, 2012.
- **White, A. S.**, R. Baier & J. Lidz (2011). Prediction and subcategorization frame frequency in the developing parser. Presented at the 24th CUNY Conference on Human Sentence Processing, Stanford University. March 24-26, 2011.
- White, A. S., R. Baier & J. Lidz (2010). When knowledge causes failure: Effects of subcategorization frequency in novel word learning. Presented at the 35^{th} Boston University Conference on Language Development, Boston University. November 5-7, 2010.

Invited Talks

White, A. S. (2018). Distribution and veridicality. Colloquium to be given at Stanford University. October 12, 2018.

White, A. S. (2017). Computational approaches to selection and complementation. Invited talk given at *Selectionfest 2017*. Humboldt University of Berlin and ZAS Berlin. Berlin, Germany. November 10-11, 2017.

White, A. S. (2017). Factoring word knowledge. Goergen Institute for Data Science Seminar Series, University of Rochester. March 2, 2017.

White, A. S. (2015). Learner as lexical semanticist. Distinguished Alumnus Address, Linguistics Undergraduate Research Conference, University of California, Santa Cruz. May 29, 2015.

Teaching

Upcoming courses

Sole Instructor, LIN 224/424: Introduction to Computational Linguistics. University of Rochester, Fall 2018.

Sole Instructor, LIN 224/424: Introduction to Semantic Analysis. University of Rochester, Fall 2018.

Sole Instructor, LIN 281/481: Statistical and Neural Computational Linguistics. University of Rochester, Spring 2019.

Current courses

Sole Instructor, LIN 224/424: Introduction to Computational Linguistics. University of Rochester, Spring 2018.

Past courses

Co-Instructor, LIN 268/468: Computational Semantics. University of Rochester, Fall 2017.

Sole Instructor, Unsupervised Methods for Linguistic Data. 29th European Summer School in Logic, Language, and Information, University of Toulouse, Summer 2017.

Co-Instructor, Computational Lexical Semantics. 29th European Summer School in Logic, Language, and Information, University of Toulouse, Summer 2017.

Co-Instructor, CS 766: Selected Topics in Computational Semantics, Johns Hopkins University, Fall 2015.

Sole Instructor, LING 419L: Topics in Syntax: Learning Meanings, University of Maryland, College Park, Fall 2014.

Teaching Assistant, LING 410: Grammar and Meaning, University of Maryland, College Park, Spring 2014.

Teaching Assistant, LING 240: Introduction to Linguistics (for majors), University of Maryland, College Park, Spring 2013.

Teaching Assistant, LING 200: Introduction to Linguistics (for nonmajors), University of Maryland, College Park, Spring 2012.

Teaching Assistant, LING 240: Introduction to Linguistics (for majors), University of Maryland, College Park, Fall 2011.

Service

Administrative committees

University of Rochester Faculty Council (2018-2020)

Cognitive Science Dinner Committee (2017-)

Advising

LaChelle Stewart, Joint PhD in Linguistics and Computer Science, expected 2023.

Venkata Govindarajan, MS in Computational Linguistics, expected 2019.

Siddharth Vashishtha, MS in Computational Linguistics, expected 2019.

Thesis committees

Committee Member, PhD Thesis, Department of Computer Science, Gene Kim (advisor: Lenhart Schubert), expected 2020

Committee Member, PhD Thesis, Department of Computer Science, Nabil Hossain, (advisor: Henry Kautz), expected 2020

Defense Chair, PhD Thesis, Department of Computer Science, Xiaochang Peng (advisor: Daniel Gildea), 2018.

Journal reviewing (ad hoc)

Semantics & Pragmatics

Journal of Semantics

Language Acquisition

Glossa

Language, Cognition, and Neuroscience

Natural Language Semantics

Chapter reviewing

Semantics in Acquisition, Trends in Language Acquisition Research (John Benjamins series)

Conference reviewing

Semantics and Linguistic Theory (SALT 2017)

Amsterdam Colloquium (AC 2017)

Annual Meeting of the North East Linguistic Society (NELS 2017-2018)

Cognitive Science Society annual conference (CogSci 2014-2018)

Boston University Conference on Language Development (BUCLD 2017)

International Conference on Computational Linguistics (COLING 2018)

International Joint Conference on Natural Language Processing (IJCNLP 2017)

Empirical Methods in Natural Language Processing (EMNLP 2018)

AAAI Conference on Artificial Intelligence (AAAI 2019)

Authored resources

Software

PredPatt (v1.0)

Description: Software framework for constructing extensible, interpretable, language-neutral predicate-argument extraction patterns on Universal Dependencies parses (White et al. 2016a).

Data

MegaAcceptability dataset (v1.0)

Description: Extremely large-scale acceptability judgment study (>5,000 participants) investigating the syntactic distribution of clause-embedding verbs (White & Rawlins 2016). Part of the MegaAttitude Project.

MegaVeridicality dataset (v1.0)

Description: Extremely large-scale veridicality judgment study investigating veridicality inferences triggered by clause-embedding verbs (White & Rawlins 2018). Part of the MegaAttitude Project.

Semantic Proto-Roles dataset (v2.x)

Description: Large-scale corpus annotation of predicate arguments for Dowty's proto-role entailments atop the English Universal Dependencies corpus v1.2 (White et al. 2016a).

It-Happened dataset (v1.0, 2.0)

Description: Large-scale corpus annotation of event realis atop the English Universal Dependencies corpus v1.2 (White et al. 2016a, Rudinger et al. 2018).

Spatial Human Simulation Paradigm dataset

Description: Extremely large-scale human simulation paradigm study (>5,000 participants) investigating how distributional and semantic information are affected by context (White et al. 2016b).

Implicative verbs dataset

Description: Set of large-scale contradiction detection, plausibility judgment, and likelihood judgment experiments (\sim 900 participants) investigating implicative verbs (White 2016).

Partial control dataset

Description: Set of medium-scale acceptability judgment experiments (~300 participants) investigating partial control (White & Grano 2014).

Proficiencies

Programming languages: Python, R, Java, LATEX

Operating systems: Debian/Ubuntu Linux, Arch Linux, Mac OS X

Platforms: Amazon Mechanical Turk

Software: Emacs, RStudio, SciPy stack, IPython/Jupyter, Theano, TensorFlow, PyMC, IntelliJ, Ibex

References

Valentine Hacquard Jeffrey Lidz Philip Resnik **Associate Professor Professor** Professor Department of Linguistics Department of Linguistics Department of Linguistics University of Maryland University of Maryland University of Maryland 1401 Marie Mount Hall 1401 Marie Mount Hall 1401 Marie Mount Hall College Park, MD 20742 College Park, MD 20742 College Park, MD 20742 hacquard@umd.edu jlidz@umd.edu resnik@umd.edu

> **Kyle Rawlins** Benjamin Van Durme **Associate Professor Assistant Professor** Department of Cognitive Science Department of Computer Science Johns Hopkins University Johns Hopkins University 237 Krieger Hall 160 Malone Hall 3400 North Charles Street 3400 North Charles Street Baltimore, MD, 21218 Baltimore, MD 21218 kgr@jhu.edu vandurme@cs.jhu.edu

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