

Justin D. Nuger

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Employment History

- 2013–present **Senior Speech & Natural Language Research Scientist** at Nuance Communications, Inc. in the Mobility Division. Currently analyzing datasets containing millions of natural language interactions per day to develop and optimize speech recognition and natural language understanding models in English, German, French, and Japanese, using a combination of hidden Markov and maximum entropy modeling techniques. Models are used in devices like phones, computers, cars, TVs, and other consumer electronics for clients like Samsung, Intel, Amazon, Mercedes Benz, LG, Apple, BMW, Aldebaran Robotics, Toyota, and others.
- 2011–2013 **Speech Applications Analyst** at 24/7 Inc. (formerly Voxify) in the Data Sciences Group. Analyzed massive quantities of speech recognition application log data/chat data/audio data (millions of sessions per day) to architect and optimize new interfaces for spoken dialogue system applications to maximize user success, satisfaction, and revenue. Designed experiments to quantify success of optimization recommendations for regular presentation to clients like United Airlines, GAP, American Express, Fidelity, Victoria's Secret, Avis/Budget Group, Capital One, Ford, Wyndham Hotels, and many others.
- 2005–2006 **Graduate Student Intern (UARC)** at the NASA Ames Research Center in the Intelligent Systems Division. Developed syntactic and statistical language models for Regulus, the backbone of Clarissa (a spoken dialogue system deployed on the International Space Station), used to help astronauts execute mechanical procedures in zero gravity.

Education

- 2010–2011 **Postdoctoral Researcher**, Cognitive Neuroscience of Language Lab, University of Maryland.
- 2004–2010 **Ph.D. Linguistics**, University of California, Santa Cruz.
- 2000–2004 **B.A. (First-Class Honours) Linguistics with German Minor**, McGill University, Montréal.

Computing Skills

PROGRAMMING/SCRIPTING: Daily use of Perl/Bash/Python for data processing and tools design/automation; basic knowledge of Java/C++.

DATA PROCESSING AND ANALYSIS: MySQL and Excel for data analysis, also comfortable with Microsoft SQL Server and scripting with structured data, e.g. in XML/CSV/JSON/etc.

DEVELOPMENT OF PRESENTATION MATERIALS: Powerpoint, Word, L^AT_EX, InDesign, Photoshop, Acrobat.

VERSION CONTROL: Subversion, Git, Mercurial, Perforce.

OPERATING SYSTEMS: Windows, Mac OS, and UNIX/Linux.

Languages

English: native.

German: fluent/certified (Kleines Deutsches Sprachdiplom; CEFR Level C2).

French: fluent/certified (Diplôme approfondi de langue française; CEFR Level C2).

Palauan: advanced reading knowledge; intermediate listening comprehension and speaking.

Japanese, Modern Greek: some university-level coursework.

Publications

BOOKS:

- 2016 **Justin Nuger**, *Building Predicates (Studies in Natural Language and Linguistic Theory vol. 92)*. Dordrecht: Springer. xviii + 324 pp.
- 2009 Alexiadou, Artemis, Jorge Hankamer, Thomas McFadden, **Justin Nuger**, and Florian Schäfer (eds.), *Advances in Comparative Germanic Syntax*. Amsterdam: John Benjamins. xv + 395 pp.

BOOK CHAPTERS AND CONFERENCE PROCEEDINGS PAPERS:

- 2011 **Nuger, Justin**. “The Syntactic Structure of Palauan Resultatives.” In Lauren Friedman (ed.), *Proceedings of the 34th Annual Penn Linguistics Colloquium*, 165–174. Philadelphia: University of Pennsylvania Working Papers in Linguistics 17.1.
- 2010 **Nuger, Justin**. “Discontiguous Reduplication in a Local Variety of Malay.” In Raphael Mercado, Eric Potsdam, and Lisa Travis (eds.), *Austronesian and Theoretical Linguistics*, 45–64. Amsterdam: John Benjamins.
- 2009 Saba Kirchner, Jesse, **Justin Nuger**, and Yi Zhang. “An Extensible Crosslinguistic Readability Framework.” In *Proceedings of ACL 2009, 2nd Workshop on Building and Using Comparable Corpora*, 11–18. Singapore: ACL and AFNLP.
- 2009 **Nuger, Justin**. “On Downward-Entailing Existentials and Differential Object Marking in Palauan.” In Sandra Chung, Daniel Finer, Ileana Paul, and Eric Potsdam (eds.), *Proceedings of AFLA 16*, 137–151. London, Ont.: University of Western Ontario, AFLA Proceedings Project.

REFEREED CONFERENCE PRESENTATIONS:

- 2015 **Nuger, Justin**. “Towards Self-Tuning ASR: Grammar Optimization with Synthetic TTS Audio.” Poster presented at the 8th Annual Nuance Research Conference, 16 March 2014, Montréal.
- 2015 Vadlapudi, Ravikiran, Ekaterina Buyko, Xi Chen, Yi Chu, **Justin Nuger**, and Anushree Venkatesh. “Classifying the Intents of Fragment Inputs in Natural Language Understanding.” Poster presented at the 8th Annual Nuance Research Conference, 18 March 2014, Montréal.
- 2014 **Nuger, Justin**. “Levels of Abstraction in Custom Pronunciation Generation for Speech Recognition.” Poster presented at the 7th Annual Nuance Research Conference, 18 March 2014, Boston.
- 2011 **Nuger, Justin**. “Definiteness Distinctions in a Language with One Determiner.” Paper presented at the 2011 Workshop on Languages with and without Articles, 4 March 2011. Paris: CNRS/Université de Paris-8.
- 2011 **Nuger, Justin**. “On Idiom Locality and the Architecture of the Grammar.” Paper presented at the 47th Annual Meeting of the Chicago Linguistic Society, 8 April 2011. University of Chicago.
- 2011 **Nuger, Justin**. “Discourse Configurability in Palauan: Against a clause-nominalization analysis of the topic construction.” Paper presented at the 29th West Coast Conference on Formal Linguistics, 24 April 2011. University of Arizona.
- 2010 **Nuger, Justin**. “Implicit Arguments and Unaccusative Syntax.” Paper presented at the 17th Annual Meeting of the Austronesian Formal Linguistics Association, 9 May 2010. Stony Brook University, New York.
- 2009 **Nuger, Justin**. “The Position of Aspect in the Palauan *vP*.” Paper presented at the 83rd Linguistic Society of America Annual Meeting, San Francisco, California, 10 January & 4th Conference on Austronesian Languages and Linguistics, School of Oriental and African Studies, London, 17 June 2009.

- 2005 **Nuger, Justin.** “A Semantic Hierarchy for West Germanic Quirky Case.” Paper presented at the 11th Germanic Linguistics Annual Conference, University of California, Davis, 21 April 2005.
- 2004 **Nuger, Justin.** “Case/Possessive Homophony in Tagalog and Its Implications for Scrambling.” Paper presented at the 2nd Annual Undergraduate Linguistics Colloquium, Harvard University, 18 April 2004.

Awards, Grants, and Honors ∞

- 2015 **Research Collaboration Award** (with Padma Ramesh and Dennis Velasco; Nuance Automotive Professional Services Team), Nuance Communications CTO Vlad Sejnoha.
- 2014 **Research Collaboration Award** (with Cari Bader and Daniel Reich; Nuance Language Modeling Team), Nuance Communications CTO Vlad Sejnoha.
- 2009–2011 **Doctoral Dissertation Improvement Grant #BCS-0846979**, National Science Foundation (\$11,995 research grant to conduct linguistic fieldwork in the Republic of Palau, Micronesia).
- 2005–2009 **Jacob K. Javits Fellowship Grant #P170B050015**, U.S. Department of Education (all academic expenses paid + annual stipend [≈\$160,000 total] for graduate study at UCSC).
- 2004–2005 **University of California Regents Fellowship** (all academic expenses paid + stipend [≈\$30,000] for graduate study at UCSC).
- 2000–2002 **Morris Wilson Scholarship**, McGill University (merit-based tuition scholarship).
- 2001 **German Embassy Prize**, German Embassy of Canada and McGill University.
- 1998–1999 **Congress-Bundestag Scholarship**, United States Congress and German Bundestag (all-expense paid study abroad year in Cottbus, Brandenburg, (Former East) Germany).

Memberships and Certifications ∞

- American Mensa (Member).
- Golden Key International Honour Society (Member).
- Open Water Diving (Certified), PADI, August 2008.
- Advanced Bartending (Certified), San Francisco School of Bartending, July 2006.