

# ARTHUR SANTANA, Ph.D.

Computational Linguist | NLP | NLU | ASR | TTS | Brazilian Portuguese

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## SKILLS

### - Linguistics

Phonetics, Phonology, Syntax, Morphology, Portuguese

### - Computational Linguistics

Language Data Analysis, Experiment Design, Language Modeling, Ontology

### - NLP

NLU, NLG, ASR, TTS

### - Technical

Python, Version Control (Git), R, Praat

## EDUCATION

### - Ph.D in Linguistics

University of São Paulo  
(2015-2019)

### - Visiting Ph.D. Scholar

University of Southern California  
(2017-2018)

### - M.A in Linguistics

University of São Paulo  
(2013-2015)

### - B.A in Letters

Federal University of Maranhão  
(2008-2013)

## LANGUAGES

### - Brazilian Portuguese

Native

### - English

Fluent/Bilingual

### - Spanish

Intermediate Level

## WORK EXPERIENCE

### ☐ Senior Linguist at Google Brazil (via Telus International) (oct/2023 - current)

- Support the Project Manager on management tasks;
- Perform review of work authored by Linguists;
- Elaborate and conduct training activities of Linguists and new-hires
- Provide extensive linguistic expertise for developing an Artificial Intelligence product using NLP techniques;
- Develop complex grammars for Natural Language Understanding;
- Create complex templates for Natural Language Generation;
- Evaluate current system outputs;
- Annotate and review linguistic data.
- Follow and fulfill project KPIs

### ☐ Associate Linguist at Google Brazil (via Telus International) (sep/2018 - sep/2023)

- NLU Grammar development
- NLG development
- Elaborate Guidelines for NLP projects
- Annotate and review linguistic data
- Provide linguistic analysis and support for NLU and NLG projects
- Response modeling
- Labeling text for disambiguation, expansion, and text normalization
- Annotating lexicon entries according to guidelines
- Deriving NLP data

### ☐ NLU Language Developer at Cerence (via Maize) (jun/2022 - aug/2024)

- Developed NLP components: write rules, build grammars/FSTs
- Contributed to the design of new features by extending existing annotation schemas to cover new areas
- Used modeling tools to bootstrap and test new functionalities
- Created annotation systems and mappings for Portuguese
- Analyzed system performance and identify areas for improvement
- Collaborated with other Engineers and annotators in data collection and development efforts
- Developed specific guidelines for Brazilian Portuguese phonetic/phonemic transcription
- Supported script design used to train speech synthesis models
- Worked on localization (en-ptBR-en)

### ☐ Computational Linguist at Portuguese International Institute (jan/2022 - jul/2022)

- Support the Scientific and Technical Portuguese Terminologies platform development
- Data cleaning and wrangling
- Flexional paradigm script design

### ☐ Visiting PhD Scholar (USC, Los Angeles, United States) (2017-2018)

### ☐ Teacher's Assistant (USP, São Paulo, Brazil) (2015-2019)

## GRANTS

### - Ph.D. Research

Conselho Nacional de Desenvolvimento Científico e Tecnológico.  
Process n. 140139/2015-0  
(2015-2019)

### - International Visiting Scholar Grant

Conselho Nacional de Desenvolvimento Científico e Tecnológico.  
(2017-2018)

### - M.A. Research

Conselho Nacional de Desenvolvimento Científico e Tecnológico.  
Process n. 130194/2013-1  
(2013-2015)

- ☐ **English teacher** (*English for Business, São Paulo, Brazil*)  
(2013-2017)
- ☐ **English teacher** (*Cultura Inglesa, São Luís, Brazil*)  
(2011-2013)

## ACADEMIC EXPERIENCE

### PUBLICATIONS

#### Journal Articles

2018. *The status of unstressed lax-mid vowels in northern dialect of Brazilian Portuguese*. Revista Linguística.
2018. *The role of Phonological processes to discussing vowel inventories in Brazilian Portuguese*. Acta Linguistica Academica.
2016. *Uma abordagem fonológica para as postônicas não-finais*. Domínio de Linguagem.
2012. *A síncope revisitada: uma análise com base no corpus do ALiMA*. Littera.
2011. *O livro didático do português: uma análise da oralidade*. Littera.

#### Book Chapters

2014. *A redução de proparoxítonas no falar maranhense*. (with José Bezerra) In: In: RAZKY, Abdelhak et. al (Orgs.). Estudos sociodialetais do português brasileiro. Editora Pontes.
2013. *A permanência da tônica em variantes proparoxítonas no falar maranhense*. In: RAMOS, Conceição et. al. (Orgs.) O português falado no Maranhão: múltiplos olhares. EDUFMA.
2012. *O apagamento das postônicas não-finais no falar maranhense*. IV Seminário Internacional de fonologia.
2012. *A neutralização das postônicas não finais no falar maranhense: uma análise preliminar*. II Congresso Internacional de Dialectologia e Sociolinguística.
2011. *Variação de proparoxítonas: traços da identidade popular no falar maranhense*. III Seminário Linguagem e identidades: múltiplos olhares.
2010. *'Risca o fósqui que a lâmpida apagó': um estudo geosociolinguístico das proparoxítonas no falar maranhense*. I Congresso Internacional de Dialectologia e Sociolinguística.
2010. *Apócope em proparoxítonas: um estudo preliminar*. I Congresso Internacional de Dialectologia e Sociolinguística.

### CONFERENCE PRESENTATIONS

- 2018 *Is there reduction via laxing in northern dialects of Brazilian Portuguese?* Generative Linguistics in the Old World - GLOW 41. (Budapest, Hungary. April, 2018)
- 2018 *The status of unstressed lax mid vowels in the northern dialect of Brazilian Portuguese*. Experimental Portuguese Linguistics Workshop (Toronto, Canada. April, 2018)
- 2018 *Syncopé and the canonical foot in Brazilian Portuguese*. 7th Hispanic and Luso-Brazilian Linguistics Conference (Tempe, Arizona. March, 2018)
2016. *The role of phonological processes to discussing vowel inventories in Brazilian Portuguese*. Old World Conference in Phonology - OCP 13 (Budapest, Hungary. January, 2016)
2015. *Uma abordagem fonológica para as postônicas não-finais*. II Encontro intermediário do GT de Fonética e Fonologia da ANPOLL. (Uberlândia, Brazil. September, 2015)
2015. *Neutralization of non-final postonic mid vowels in Brazilian Portuguese: assimilation or feature deletion?* Phonetics and Phonology in Europe - PAPE 2015 (Cambridge, UK. July, 2015)
2015. *Vogais médias em dialetos nordestinos: as postônicas não-finais em São Luís*. 63 Seminário do GEL. (Campinas, Brazil. June, 2015).