Sunkulp Ananthanarayan

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Research Interests

– Language documentation/description
– Sociolinguistics, esp. variationist
– Indigenous and minoritized language activism
– Computational linguistics
  – Ontologies and Knowledge Graphs to represent belief states of a speaker/signer/author
  – Web implementations of analysis tools
  – Tools for documentation and description contexts
– Linguistic typology

Education

2021	**Linguistics**, University of Texas at Austin (GPA: 3.7723) Major GPA: 4.0000 *Certificate*: Elements of Computing
2018	**Semester Exchange**, Australian National University (GPA: 4.0000) *Coursework*: Advanced Sociophonetics Qualitative Methods in Linguistics Learning an Indigenous Australian Language (Gamilaraay) Dictionaries and Dictionary Making Field Methods (Motu)

Research and Work Positions

Research positions

2021-Pres.   **Ontology developer**. Active Interpretation of Disparate Alternatives Research Group (AIDA).
Supervisor(s): Dr. Katrin Erk
Organization: Defense Advanced Research Projects Agency (DARPA)

- Annotated and evaluated contradictory texts with disinformation about SARS-CoV-2/COVID-19
- Developed an ad-hoc ontological mapping through conversation between teams
- Ran metrics on similarity of graph nodes to determine gold standard for comparison with machine-parsed texts
- Contributed to building a more thorough model of claims involving belief states and temporal/aspectual dimensions

2017-2020   **Research Assistant**. Naduhup Documentation Research Group.
Supervisor(s): Dr. Patience Epps
Organization: The University of Texas at Austin
- Reformatted dictionary, fixing encoding problems and inconsistencies, and incorporated it into a database
- Conducted analyses about historical contact and evolution of Naduhup languages

2018-2019   **Research Assistant**. Bilingual Annotation Task Force.
Supervisor(s): Drs. Jacqueline Toribio and Barbara Bullock
Organization: The University of Texas at Austin
- Validated annotations of code-mixed language texts
- Vectorized and reduced dimensionality of texts and applied biological and statistical models to propose analyses about code-mixing

2018   **Visiting Fellow**. Matukar Panau Phonetic Variation Project.
Organization: The ARC Centre of Excellence for the Dynamics of Language
- Cleaned minorioty language data and pruned it for primary investigation to find points of interest
- Created pronunciation dictionary of annotated dataset
- Modelled audio to create automated text alignment with audio
- Ran algorithm for recursive performance of alignment
- Programmed statistical models to understand the sociolinguistic scene of this language

Work positions

2020-2021   **AI Specialist Intern**. Appen Butler-Hill.
- Researched industry standards for user behavior data evaluation
- Mapped text-based data into abstracted web ontology
- Compared knowledge graphs of varied texts

2016-Pres.   **Spanish Tutor**. Independent.
- Practiced conversational Spanish with students in one-on-one and group settings
- Generated and executed lesson plans for students just beginning learning Spanish both with and without formal lessons, as well as those with experience
- Worked with students to reach writing and comprehension goals

2016-Pres.   **Hindi Tutor**. Independent.
- Leveraged linguistics experience in comparing Hindi and English patterns to augment learning beyond basics
- Practiced conversational Hindi with students in small scale tutorials

2019   **Machine Learning Instructor**. iD Tech.
- Redesigned faulty curriculum for teenager-oriented machine learning lessons
- Led classes through tutorials about machine learning algorithms and implementations

- Guided students in individual projects utilizing what they learnt

2018   **Primary Web Developer**. Gamiliaraay (Kamilaroi) Revitalization Project.
- Consulted with indigenous community representatives to design a site oriented toward cultural preservation
- Recycled and revamped existing designs to better match the specification

2017   **Programming Instructor**. Wize Academy.
- Created a curriculum of lessons to teach coding aimed towards Minecraft
- Led ten lessons in programming for a class of 9 children

2016   **Theatre Camp Counselor**. New Age Montessori School.
- Ran a weeklong theatre camp for young children (elementary school)
- Directed a short play, incorporating the students' ideas consistently
- Planned curriculum to integrate with teaching blocking and acting for the play

Relevant Coursework

2016   *Intensive Nahuatl*

2017   *Dying Languages: What World Linguistic Diversity Means for Us*

2017   *K'ichee' Peoples: Culture/History/Language*

2017   *Elements of Software Design*

2018   *Field Methods*

2019   *Language Contact (Graduate course)*

2020   *Elements of Software Engineering*

Workshops and Reading Groups

Workshops

2019   *Phylogenetics: Computational Historical Linguistics*. Host: Claire Bowern. Yale University. Linguistic Society of America Annual Meeting

2019   *Documenting Multilingualism*. Hosts: Lenore Grenoble, University of Chicago and Jack Martin, University of William & Mary. Linguistic Society of America Annual Meeting.

2018   *Using your own language data for speech recognition*. Host: Daan van Esch, Google. University of Melbourne.

2018   *Directionality and Associated Motion Workshop*. Host: Harold Koch, Australian National University. Australian National University.

2018   *Working in Tech–It's Not Just for Computational Linguists*. Hosts: Samantha Beaver, Memra Language Services; Sam Cooper, NoRedInk; Christopher Stewart, Google; Frankie Pennington Sensory, Inc.; Brent Woo, Amazon. Webinar by Linguistic Society of America's Linguistics Beyond Academia Special Interest Group

2018	*Support Vector Machines as a Sociollinguistic Tool.* Host: Tyler Kendall, University of Oregon. New Ways of Analyzing Variation (NWAV) 47
2017	*Sociophonetics Workshop: Big Data and Social Research.* Host: Malcah Yaeger-Dror, University of Arizona. University of Texas at Austin.

Groups and Seminars

2020-Pres.	*Formal approaches to morphology*
2019-Pres.	*Construction grammar reading group*
2017-Pres.	*Graduate seminar for research in documentary/descriptive linguistics*
2016-Pres.	*University of Texas Undergraduate Linguistics Society*
2018	*Grammar writing*
2018	*Language evolution and change*
2018	*Programming in R for linguistics*
2018	*Phonetics discussion*

Awards and Grants

2020	**Unrestricted Endowed Presidential Scholarship** (Office of Financial Aid and Scholarship).
2019	**President's Award for Global Learning** (International Office).
2019	**Unrestricted Endowed Presidential Scholarship** (Office of Financial Aid and Scholarships).
2018	**Liberal Arts Honors Upper Division Scholarship** (Liberal Arts Honors).
2018	**Transdisciplinary Innovation Grant** (The Centre of Excellence for the Dynamics of Language).
2018	**Undergraduate Research Scholarship** (School of Undergraduate Studies).
2018	**Undergraduate Research Apprenticeship Program** (College of Liberal Arts).
2018	**Liberal Arts Honors Research/Conference Award** (Liberal Arts Honors).
2017	**Liberal Arts Honors Scholarship** (Liberal Arts Honors).
2017	**Liberal Arts Undergraduate Research Scholarship** (Office of the Vice President for Research).
2017	**Liberal Arts Undergraduate Research Scholarship** (Office of the Vice President for Research).
2017	**Liberal Arts Honors Upper Division Scholarship** (Liberal Arts Honors).

2017   **Scholarship for Exchange Programs** (College of Liberal Arts).

Conference Presentations

2019   Ananthanarayan, Sunkulp, Eri Kashima, Siva Kalyan, and Naomi Peck. Feb. 2019. **Linguistic Cartography: Mapping Linguistic Theory**. Presented at The Texas Linguistics Symposium, Austin, Texas, United States

2019   Epps, Patience and Sunkulp Ananthanarayan. Jan. 2019. **Society for the Study of the Indigenous Languages of Latin America (SSILA 2019). Stability in grammatical morphology: A Naduhup case-study (Amazonia)**. Presented at The Society for the Study of the Indigenous Languages of the Americas, New York City, New York, United States

2018   Ananthanarayan, Sunkulp. Feb. 2018. **Documentation of Dâw and Tools for Comparative Analysis**. Presented at Centre of Excellence for the Dynamics of Language (CoEDL) Fest, Melbourne, Victoria, Australia

2018   Ananthanarayan, Sunkulp, Eri Kashima, Siva Kalyan, and Naomi Peck. July 2018. **Linguistic Cartography: Mapping Linguistic Theory**. Presented at CoEDL ANU Linguistics Seminar, Canberra, ACT, Australia

2018   Gonzalez, Simon, Catherine Travis, James Grama, Danielle Barth, and Sunkulp Ananthanarayan. Dec. 2018b. **Recursive forced alignment: A test on a minority language**. Presented at Speech Science and Technology Conference (SST2018), Sydney, New South Wales, Australia

2018   González, Simón, James Grama, Sunkulp Ananthanarayan, Danielle Barth, and Catherine Travis. Oct. 2018. **Opening the door for forced-alignment to minority languages**. Paper presented at *New Ways of Analyzing Variation 47*, New York City, New York, United States

2017   Aguirre, A., S. Ananthanarayan, E. Frazier, N. Grant, K. Hall, R. Law, and L. Wagner. May 2017a. **From Documentation to Community Resources: Developing Pedagogical Materials for Naduhup Languages in Northwestern Brazil**. Paper presented at UT Undergraduate Research Bazaar, Austin, Texas, United States

2017   Aguirre, A., S. Ananthanarayan, E. Frazier, N. Grant, K. Hall, R. Law, and L. Wagner. May 2017b. **From Documentation to Community Resources: Developing Pedagogical Materials for Naduhup Languages in Northwestern Brazil**. Paper presented at UT Undergraduate Linguistics Research Symposium, Austin, Texas, United States

2017   Ananthanarayan, Sunkulp. Oct. 2017a. **Documenting Dâw**. Undergraduate Research Showdown Research Communication Competition, Austin, Texas, United States

2017   Ananthanarayan, Sunkulp. Nov. 2017b. **Invited Lecture: Dâw Fieldwork**. Presented at Seminar in Language and Culture in Amazonia, Austin, Texas, United States

Publications and Write-ups

In prep.   Barth, Danielle, Sunkulp Ananthanarayan, and Simón González. In prep. **The Sociolinguistic Scene of Matukar Panau**

2021   Epps, Patience and Sunkulp Ananthanarayan. 2021. **Stability in grammatical morphology: An Amazonian case-study**. *Diversity in Language Change: Historical Linguistics and Endangered Languages*. Ed. by Patience Epps, Daniel Law, and Na'ama Pat-El. Series in Historical Linguistics. Routledge

2018   Gonzalez, Simon, Catherine Travis, James Grama, Danielle Barth, and Sunkulp Ananthanarayan. 2018a. **Recursive forced alignment: A test on a minority language**. *Proceedings of the 17th Australasian International Conference on Speech Science and Technology*. Ed. by Julien Epps, Joe Wolfe, John Smith, and Caroline Jones, pp. 145–148

2017   Ananthanarayan, Sunkulp. 2017c. **Undergraduate Spotlight: Sunny Ananthanarayan**. Webpage. URL: https://liberalarts.utexas.edu/linguistics/about/newsletters/fall-2018/ananthanarayan-newsletter-feature-fall-2018.php

Service

Conference work

Volunteer   Conference on the Indigenous Languages of Latin America (2019)

Volunteer   Hispanic Linguistics Symposium (2018)

Volunteer   Linguistic Society of America Annual Meeting (2017)

Moderator   Conference on the Indigenous Languages of Latin America (2017)

Event organization

Organizer   Linguistic Society of America Committee on LGBTQ+ Issues in Linguistics Pride Month Wikipedia Edit-a-thon (2021)

Organizer   International Year of Indigenous Languages 2019 Wikipedia Edit-a-thon (2019)

Organizer   Indigenous Arts Fest (2018)

Organizer   Indigenous Arts Fest: Pachamamanchikwan Kawsakunchik (2017)

Departmental Service

Undergraduate liaison   UT Austin Department of Linguistics and Associated Students of Linguistics (graduate student organization) (2018-Pres)

Authorized Rep.   UT Latin Americanist Linguists and Anthropologists (2019-2021)

Oligarch   UT Austin Undergrad Linguistics Society (2017, 2020-2021)

President	UT Austin Undergraduate Linguistics Society (2019)
VP	UT Austin Undergraduate Linguistics Society (2018)

Other

Collaborator	Creating Inclusive and Representative Wikipedia Articles for Indigenous Languages (2021; preparation for International Decade of Indigenous Languages, 2022-2032)
Editor	Wikimedia projects, esp. Wikipedia and Wiktionary; active participant in Edit-a-thons (2014-Pres.)
Producer	Foot in the Door Theatre Troupe (2017-2020)
Technician	Foot in the Door Theatre Troupe (2016-2020)
Technician	Creative Arts+Theatre UT Austin (2016-2020)
Director	Hitch-Hiker's Guide to the Galaxy Stage Adaptation (2019)

Other Professional Activities & Skills

Fieldwork

2017	Dâw (Naduhup). Waruá/São Gabriel da Cachoeira, Amazonas, Brazil; Pedagogical material creation, lexicography, recent and distant history documentation, material culture documentation.

Professional Memberships

2021-Pres.	LSA Working Group on Demographic Data
2019-Pres.	LSA Committee on LGBTQ+ Issues in Linguistics (COZIL)
2019-Pres.	LSA Committee on Ethnic Diversity in Linguistics (CEDL)
2019-Pres.	Committee on Gender Equity in Linguistics (COGEL; formerly COSWL)
2017-Pres.	Society for the Study of the Indigenous Languages of Latin America (SSILA)
2018-2019	LSA LGBTQ+ Issues in Linguistics Special Interest Group
2016-2018	LSA Committee on AP Linguistics
2016-Pres.	Linguistic Society of America (LSA)

Languages

English, Native
Latin American Spanish, Fluent
Brazilian Portuguese, Advanced conversational
Spoken and Written Hindi (Heritage), Conversational
Spoken Marathi (Heritage), Intermediate
Classical Latin, Intermediate

Intermediate reading and listening capability in various other Italo-Western Romance languages, as well as German.

Software

Praat, Proficient
SIL's Field Language Explorer, Proficient
SIL's Toolbox, Proficient
ELAN Audio and Text Annotation, Proficient
Montreal Forced Aligner, Proficient
Jupyter Notebooks, Proficient
Git (GitHub, GitLab), Proficient
Lawrence Antony's AntConc Concordancing Tool, Adequate

Programming and Markup Languages

Python, Proficient
   Modules:
   – `pandas`
   – `sklearn`
   – `flask`
R, Proficient
   Libraries:
   – `tidyverse`
   – `ggplot`
LaTeX, Proficient
   Packages:
   – Linguistics (`qtree`, `expex`/`gb4e`, `tipa`, etc.)
   – Mathematics and logic (`amsmath`, `tikz`, etc.)
HTML5, Proficient
JavaScript & JQuery, Intermediate
CSS & Bootstrap CSS, Intermediate
Praat scripting, Intermediate
MediaWiki markup, Intermediate
Shell scripting, Adequate
MySQL, Adequate
PHP3, Adequate

Other technical skills

Machine learning model architectures
Regular Expressions
Propositional, Predicate, and Modal logic
Set theory
Semantic Web, Knowledge Graphs, and Ontologies
   – Resource Description Framework (RDF)
   – Web Ontology Language (OWL)
   – RDF-Schema
   – Manchester, Turtle, XML, and JSON Syntax for KGs and Ontologies

- – Upper-level ontologies such as DOLCE (and extensions DL+, DnS, Collections and Collectives, Social Units, and cDnS)

Agile development

Extreme Programming