

Sunkulp Ananthanarayan

Website: sunmuffin42.github.io

Any pronouns: they/she/he

Email: sunkulp.ananth@gmail.com

Mobile: 972-207-8008

Research Interests

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

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 minority 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

Workshops and Reading Groups

Workshops

- 2019 *Phylogenetics: Computational Historical Linguistics.* Host: Claire Bovern. 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 Sociolinguistic 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

- 2021-Pres. *Monash University Linguistics Society reading group*
- 2017-Pres. *Graduate seminar for research in documentary/descriptive linguistics*
- 2016-Pres. *University of Texas Undergraduate Linguistics Society*
- 2020-2021 *Formal approaches to morphology*

2019-2020	<i>Grammatical theory reading group</i>
2017-2020	<i>South Americanist seminar</i>
2018	<i>Grammar writing</i>
2018	<i>Language evolution and change</i>
2018	<i>Programming in R for linguistics</i>
2018	<i>Phonetics discussion</i>

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
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- 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 Field-work**. Presented at Seminar in Language and Culture in Amazonia, Austin, Texas, United States

Publications and Write-ups

- 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>
- 2017 Epps, P., K. Obert, L. Storto, C. Assis, and S. Ananthanarayan. 2017. *Histórias de Vida Da Comunidade Waruá*. CreateSpace Independent Publishing Platform. ISBN: 9781976480324. URL: <https://books.google.com/books?id=izHbtAEACAAJ>

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
Materials created during the project:
- Dicionário Dâw, a Dâw-Portuguese-English Dictionary
 - Archived materials at the Archive of Indigenous Languages of Latin America (AILLA identifier for full language collection: [ailla:254973](#))

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**

L^AT_EX, 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