

# TYLER W. CARSON

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[linkedin.com/in/twcarson](https://www.linkedin.com/in/twcarson) · [github.com/yzgncx](https://github.com/yzgncx) · [inaturalist.org/people/t-w-carson](https://inaturalist.org/people/t-w-carson)

## PROJECTS

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### Biodiversity Inventory of Under-documented area in Kern County

- Conducted an ongoing, self-directed biodiversity inventory of an under-documented region along the South Fork of the Kern River Valley, roughly corresponding with the bounds of Onyx, CA.
- Recorded roughly 1000 observations using iNaturalist, including over 150 unique plant species. Created and maintained a checklist page for the region to track likely and confirmed taxa.
- Documented several rare and uncommon species, as well as several species at the extreme edges of their known range.
- Relocated rare species based on the descriptions and geolocations provided in herbarium collections.

### Dichotomous Key Tools (work in progress)

*Python*

- Designed and implemented a code base to introduce useful functionalities to dichotomous keys, including interactive key traversal, key filtering based on arbitrary data (for example: geolocation, native status, etc), and nearest ancestor of two leaves.
- Created key parser for plaintext from Jepson eFlora pages, with the goal of implementing webpage parsers for Jepson and other popular online floras.
- Goals for the project include creating a web interface and integrations with other online tools such including iNaturalist and Calflora.

### Phonological Analysis of Uyghur Language

*Python, Excel*

- Implemented corpus data processing tools including regex search tool, Arabic/Latin transliterator, and text processing.
- Performed statistical analysis of written Uyghur corpus, analyzing properties of vowel harmony.
- Constructed a web scraper using Python's Scrapy module to generate a corpus of written Uyghur.

## WORK EXPERIENCE

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### Sensory, Inc.

*Product Linguist*

Portland, OR (remote)

May 2023 - May 2025

- Created, documented, and maintained internal software tools written in Python and Bash.
- Trained and tested production artificial neural networks built for wake word and command recognition.
- Applied linguistic and phonetic expertise and research methods to analyze speech spectrograms and curate audio datasets.
- Used research methods to find optimal model parameters and best practices for data curation.
- Balanced the work of several simultaneous projects with tight deadlines.

### SoundHound, Inc.

*Linguistic Engineer*

Santa Clara, CA

Aug 2021 - Jan 2023

- Created experimental and production acoustic models for several languages, often delivering models on tight time-frames. Produced scripts to automate and streamline multi-step training processes.
- Lead meetings and coordinated presentations for a team of engineers and linguists.

*Language Data Specialist*

Mar 2020 - Aug 2021

- Designed, set up, and maintained a MySQL database for cataloging text and audio data used in creating text to speech models; designed and wrote a web tool for speech data collection.
- Trained and debugged automatic speech recognition models, testing performance with statistical methods.

*English Data Intern*

Aug 2019 - Mar 2020

- Organized and lead scripting lessons and office hours for other interns and team members.
- Developed a collection of tools in Python for scraping and conditioning text data for use in a linguistic corpus.

SKILLS

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Tools / Environments:	ARCGis, Excel, Microsoft Office, Windows, Survey123, UNIX, Git, L <sup>A</sup> T <sub>E</sub> X		
Field Skills:	Plant Identification, Specimen Collection, Seed Collection, Backpacking, Map & Compass Navigation, Off-road Driving		
Programming Languages:	Python, R Studio, SQL, Bash, C, C++		
Natural Languages:	English		(fluent, native)
	Spanish, German		(basic proficiency)

OTHER RELEVANT EXPERIENCE

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<i>BLM AIM Survey Volunteer</i>	2025	Volunteered in data collection and reporting for BLM Assessment Inventory and Monitoring of wetland plots in Santa Cruz County.
<i>Invited Speaker</i>	2024	Presentation to the San Jose Cactus and Succulent Society on the topic of floral biodiversity in California's desert and chaparral ecosystems.
<i>Invited Speaker</i>	2023	Presentation to the San Francisco Succulent and Cactus Society on seed collection and propagation.

EDUCATION

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<b>University of California, Los Angeles</b>	Los Angeles, CA
M.A. Linguistics	Sep 2018 - Jun 2019
B.A. Linguistics and Computer Science	Sep 2015 - Jun 2019

COURSEWORK

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Statistics · Research Methods · Programming Languages · Algorithms · Computational Linguistics
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