Tyler W. Carson

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Work Experience

SoundHound, Inc.   Santa Clara, CA
Linguistic Engineer   Aug 2021 - Jan 2023

- Created experimental and production acoustic models for several languages, often delivering models on tight time-frames. Created scripts to automate and streamline multi-step training processes.

- Lead meetings and coordinated presentations for a team of engineers and linguists.

- Worked in a small team to port a legacy repository from C to Python.

Language Data Specialist   Mar 2020 - Aug 2021

- Trained and debugged acoustic models and language models for automatic speech recognition.

- Developed and iterated on a web tool for audio data collection written in Javascript & HTML.

- Designed, set up, and maintained a MySQL database for cataloging text and audio data used in creating text to speech models.

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.

UCLA Linguistics   Los Angeles, CA
Undergraduate Researcher   Jul 2017 - Oct 2018

- Conducted research on the relationship between surprisal and entropy reduction as measures of complexity for natural language.

- Developed software in OCaml for calculating the complexity of grammar in natural language sentences using concepts based in information-theory.

- Contributed code for calculating the entropy of a probabilistic formal grammar.

Projects

Analysis of Uyghur Vowel Harmony   *PRAAT, Python, Excel*

- Measured phonetic qualities of consultant-provided audio data using PRAAT.

- Performed corpus study of written Uyghur analyzing properties of backenss harmony.

Web Scraper for Corpus Work   *Python, Scrapy, Tkinter*

- Built web scraper using Python's Scrapy module to generate a corpus of written Uyghur.

- Implemented corpus data processing tools including regex search tool and Arabic/Latin transliterator.

Part of Speech Tagger   *Python, NLTK*

- Developed a part of speech tagger for untagged corpora using Python Natural Language Tool-Kit.

- Model training was done using the open-source maximum entropy algorithm MegaM.

Text Based / Rogue-Like RPG   *C++, NCurses*

- Designed and implemented a game-engine for a terminal-based RPG using C++ and nCurses library.

Skills

Tools / Environments:	Git, UNIX, Jira, Jenkins, Docker, Kubernetes, Audacity, Emacs, Excel, LaTeX
Programming Languages:	Python, Bash, C, C++
Natural Languages:	English (fluent, native)
	German (working proficiency)

Education

University of California, Los Angeles   Los Angeles, CA

M.A. Linguistics	*GPA: 4.00*	Sep 2018 - Jun 2019
B.A. Linguistics and Computer Science	*GPA: 3.69*	Sep 2015 - Jun 2019

Crafton Hills College   Yucaipa, CA
A.A. Japanese Language and Culture   *GPA: 3.91*   Sep 2013 - Jun 2015

COURSEWORK

Phonetics · Phonology · Syntax · Semantics · Computational Linguistics · Programming Languages ·
Formal Languages & Automata Theory · Algorithms · Mathematical Structures in Language

HONORS AND AWARDS

UCLA Linguistics Departmental Scholar
Selected by UCLA Linguistics Faculty to complete 1-year masters program.   Spring 2018

UCLA Honors Summer Research Stipend   Summer 2018

UCLA College Honors Program   Fall 2015 - Present

Crafton Hills College - Honors College Graduate   Spring 2015