

# Parker Carlson

Santa Barbara, CA | 503-318-9304 | parker\_carlson@ucsb.edu | thefxperson.github.io

## Education

---

### University of California, Santa Barbara

September 2023 – June 2028

Doctor of Philosophy, Computer Science.

### Oregon State University

September 2019 – June 2023

Bachelor of Science, Computer Science, *summa cum laude* (3.98 GPA).

1 peer-reviewed publication.

## Experience

---

### Data Science Intern

June 2022 – December 2022

#### *Micro Systems Engineering, Inc.*

- Constructed TIBCO Spotfire dashboards to provide analytics and visual quality assurance of manufacturing processes
- Reduced manual data examination during root cause failure analysis by 95% using data mining techniques
- Integrated TIBCO Data Virtualization, Spotfire, and Statistica to analyze data and identify abnormal test results
- Presented analytic-enabled dashboards to 20 employees, including 5 department heads

### Data Science Intern

June 2021 – August 2021

#### *Viewpoint, a Trimble Company*

- Created interactive Domo charts featured in Viewpoint's Executive Quarterly Business Review to inform market decisions
- Forecasted spending in the construction industry using time-series analysis and machine learning techniques
- Optimized frequent SQL queries to reduce length by 64% and execute over 300% faster

### Research Assistant

June 2020 – August 2020

#### *Soundbendor Lab*

- Designed and implemented a library for efficient data processing and loading into Tensorflow, used by 10 lab members
- Developed technical tutorials for audio-based machine learning and Slurm used by over 15 lab members
- Analyzed and debugged various deep learning models. Implemented solutions in Tensorflow, Pandas, and SK-Learn
- Explained audio deep learning visually with custom graphics created in Adobe After Effects

## Projects

---

### Audio Transposition

November 2019 – June 2023

#### *Soundbendor Lab*

- Designed deep neural networks to transpose time-domain audio while preserving timbre using Tensorflow.
- Conducted hundreds of machine learning experiments using Tensorflow, Slurm, and Neptune.ai
- Published as 2<sup>nd</sup>-author at EvoMUSART 2023 for work on applying deep learning to audio transposition
- Awarded 2nd Place Industry's Choice Award at 2020 OSU Engineering Virtual Showcase. Chosen out of 200 projects

### Operating System Kernel

April 2022 – June 2022

- Implemented a Unix-like kernel in C and x86 Assembly following curriculum from MIT & UW
- Implemented the bootloader, virtual & physical memory, user & kernel environments, and processes.

### Statistical Analysis of Mood

June 2020 – June 2021

- Analyzed and predicted my daily mood using data science and machine learning techniques
- Cleaned data, selected features, and forecasted daily mood based on tracked personal data

### Japanese Character Recognition

September 2017 – June 2021

- Explored few-shot learning with neural networks to improve recognition of handwritten Japanese characters
- Augmented available handwritten character data using generative adversarial networks
- Awarded "Best in Computer Science" and "Outstanding Science Project" at 2018 and 2019 local ISEF events, respectively

## Skills

---

**Communication:** Led teams of 5+ both in-person and remote, presented to small (2-20) and large (100+) groups

**Languages:** English (native), French (DELF B2)