Parker Carlson

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Education

University of California, Santa Barbara *September 2023 – June 2028*
Doctor of Philosophy, Computer Science (4.0 GPA).
Two peer-reviewed publications.

Oregon State University *September 2019 – June 2023*
Bachelor of Science, Computer Science, *summa cum laude* (3.98 GPA).
Two peer-reviewed publications.

Experience

Teaching Assistant *August 2024 – June 2025*
University of California, Santa Barbara
- Taught lab sections and designed the final project for UCSB's Intro to Computer Science with over 120 students enrolled
- Received outstanding reviews from both students and course staff.

Research Assistant *September 2023 – August 2024*
University of California, Santa Barbara
- Improved the implementation of a search algorithm, resulting in a 200% speedup with no relevance degradation
- Published two 2nd-author papers at top venues (SIGIR, EMNLP) during my first year, with an additional paper under review

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 in Python
- 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 1st- and 2nd- author at EvoMUSART 2024 & 2023 respectively for music deep learning works
- Awarded 2nd Place Industry's Choice Award at 2020 OSU Engineering Virtual Showcase. Chosen out of 200 projects

Japanese Character Recognition *September 2017 – June 2021*
- Explored few-shot learning with neural networks to improve recognition of handwritten Japanese characters
- 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)
Coursework: Data Structures & Algorithms, Intro to Parallel Programming, Linear Algebra, Mathematical Statistics