SEBASTIAN C. WAZ

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Data analyst adept in implementing machine learning algorithms seeking a fulltime opportunity working with massive datasets. Driven to maximize human potential by finding meaningful patterns where others would only find noise.

EDUCATION

University of California, Los Angeles

B.S. in Cognitive Science and Computing (Class of 2016, GPA 3.26, Major GPA 3.46)
Relevant coursework: neural networks, Signal Detection Theory, statistical analysis, probability theory, research methods, data structures, complexity and optimization, sorting, operating systems design, computer architecture

SKILLS

- C/C++
- Java
- Python
- Bash
- JavaScript
- HTML/CSS
- Lua
- C#
- SPSS
- R
- MATLAB
- MySQL

ROLES

Geospatial Analyst, Easter Island Statue Project and UCLA Rock Art Archive (July 2014 – present)

- Write Python modules for handling spatial queries (e.g. least-cost pathing, polygon intersection)
- Audit and update Drupal image and geospatial database (MySQL) of 4000+ sites
- Exercise design skill in building interactive maps, diagrams for publication, and database taxonomies

Project Manager, UCLA Unmanned Aerial Systems (July 2014 – July 2015)

- Rebuilt defunct student project from the ground up; supervised work in computer vision and control systems
- Competed in AUVSI Seafarer Chapter's 2015 Student Unmanned Aerial Systems Competition

PROJECTS

Distilling play strategies from NN agents, CS 188: AI Playing Games (Spring 2016)

- Used unsupervised learning (JavaML) to cluster 100,000+ game-states from AI runs of Super Mario
- Wrote specialized Q-learning algorithm using cluster centroids as table states, neural net ("NN") agent as tutor
- Successfully abstracted basic strategies of NN agent as Q-table state-action relationships, reducing complexity

Unsupervised learning of musical genres, Psych 186C: Neural Networks (Winter 2016)

- Wrote Kohonen self-organizing map ("SOM") in MATLAB to cluster songs into genres (78% purity, 4 genres)
- Used various time series analyses on data from LabROSA Million Song Database to generate input features
- Wrote backpropagation NN, trained on same dataset: compared classification accuracy against SOM group purity

Personal projects

- Recursive neural network in MATLAB for generating MIDI drum sequences
- Spline-based waveform synthesizer on IPlug framework in C++
- Web-based interactive music/instruments using p5.js (see: sebwaz.com)

RESEARCH

Independent Researcher, Zili Liu Computational Perception Lab, UCLA (Summer 2014 – present)

- Applied Signal Detection Theory to visual perception; presented significant ($p < 0.01$) results:

  Song, X., Waz, S. C., & Liu, Z. (2015, May). *Boundary Extension: Insights from Signal Detection Theory.* Poster presented at the 24th Annual Psychology Undergraduate Research Conference (PURC) at UCLA, Los Angeles, CA.

- Conducted multi-voxel pattern analysis of fMRI data using LIBSVM for MATLAB
- Built scripts in MATLAB and Python to animate visual stimuli, take user input, and automate data analysis