

# SEBASTIAN C. WAZ

951.741.8079  
sebwaz@g.ucla.edu

sebwaz.com

3508 Keystone Ave., Apt. 6  
Los Angeles, CA 90034

## EDUCATION

### University of California, Los Angeles

B.S. in Cognitive Science and Computing (Class of 2016)

Coursework: software construction, client/service interfaces, operating systems design, computer architecture, research methods, statistics, probability theory, perception in technology, AI playing games, machine learning

## SKILLS

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

## ROLES

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

- Write Python modules for handling ETL and 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, data visualizations, and database taxonomies

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

- Secured \$10,000 grant from the Northrop Grumman Corporation for work in computer vision and avionics
- Grew club membership by 500%, competed in the AUVSI 2015 Student Unmanned Aerial Systems Competition
- Exercised risk management: developed contingency plans to mitigate harm and maximize system survivability

## 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 agent runs of Super Mario
- Wrote specialized Q-learning algorithm to translate neural network (“NN”) behavior into state-action strategies
- Developed successful Markov AI agent, reducing complexity from NP to P with comparable performance

### *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)
- Conducted ETL 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*

- Refining recurrent NN architecture in Python to generate drum sequences in MIDI
- Wrote, produced, branded, and marketed an independent music record (see: [analogies.thatsebas.com](http://analogies.thatsebas.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 24<sup>th</sup> 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
- Awarded \$2,000 research scholarship by the Psychology Research Opportunities Program (PROPS)