**SEBASTIAN C. WAZ**

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**EDUCATION**

**B.S. − Cognitive Science and Computing,** UCLA (2016)  
**M.S. − Statistics,** UC Irvine (2019, expected)  
**Ph.D. − Cognitive Neuroscience,** UC Irvine (2022, expected)

Coursework: stats theory, generalized linear models, longitudinal data analysis, Bayesian inference, stats consulting,  
neural networks, PDEs, computer architecture, software construction, operating systems design, automata theory

**SKILLS**

* R and Rmd
* Python
* R2jags
* NumPy
* MATLAB
* Keras
* SPSS
* scikit-learn
* C/C++
* NLTK

**WORK HISTORY**

***GIS Analyst***, Easter Island Statue Project (July 2016 – September 2017)

* Wrote Python modules for handling ETL and geospatial analysis (e.g. least-cost pathing, clustering) in ArcGIS
* Worked with a MySQL database of archaeological records (images, text, GPS coordinates) spanning 4000+ sites
* Used Natural Language Toolkit (NLTK) to identify mentions of objects of interest in historical field notes

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

* Revived defunct student project; team competed in the 2015 SUAS Competition and is now a regular competitor
* Managed funding and advisory relations with Nextgen Aeronautics and Northrop Grumman Corporation
* Exercised risk management: developed contingency plans to mitigate harm and maximize system survivability

**RESEARCH**

***Graduate Student,*** Chubb-Wright Lab, UC Irvine (Fall 2017 – present)

* Developed neurodynamic model for computing visual statistics under realistic physiological constraints  
  (associated manuscript in preparation):

**Waz, S., Chubb, C. (2018, September). *Laterally connected neural field provides precise centroid estimates*. Poster presented at the 2nd Computational Cognitive Neuroscience (CCN) Conference in Philadelphia, PA.**

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

* Awarded $2,000 research scholarship by the Psychology Research Opportunities Program (PROPS)
* Applied signal detection theory to research in visual perception:

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

**PROJECTS**

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

* Wrote backpropagation NN and Kohonen self-organizing map (SOM) algorithms in MATLAB
* Used LabROSA Million Song Database to generate time-series features for 10,000 song dataset
* Successfully automated genre clustering (78% purity, 4 genres) and classification (80% accuracy, 4 genres)

***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 a tailored Q-learning algorithm to reduce neural network (NN) behavior to state-action strategies
* Q-learning agent retained basic behaviors of NN supervisor, represented behaviors in human-readable format