LANE LEWIS

UNDERGRADUATE IN MATH AND NEUROSCIENCE

CONTACT DETAILS

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RESEARCH INTERESTS

Computational Neuroscience

Machine Learning and AI

Computational Psychology

PROGRAMMING SKILLS

Proficiency in:
Python, Javascript/HTML, R

Experience With:
AWS, Github, Docker, SQL, NoSQL, Nodejs, React, Svelte, Electron

AWARDS

2018, 2019 Putnam Competition Award

David Lomen Excellence in Mathematics award

James R. Bunch Scholarship

2020, 2021 Lusk Scholarship

CLASSES SAMPLE

Real Analysis (A,B)

Theory of Statistics

Neural Networks

Neurophysiology

PERSONAL INTERESTS

Rock Climbing, Jazz Piano, Cooking

ACADEMIC CAREER

UNIVERSITY OF ARIZONA (FALL 2018 -)

Double majoring in Comprehensive Mathematics and Neuroscience/ Cognitive Sciences with a minor in Information Science. Honors College, GPA: 3.94. Expected graduation date: Spring of 2022.

STEVENSVILLE PUBLIC HIGH SCHOOL (2013-2017)

GPA: 3.72. Class rank 3/72. SAT 1450.

RESEARCH EXPERIENCE

NEURAL MACHINE LEARNING RESEARCH

Under Mentor Dr. Kevin Lin, (Summer 2021 - Fall 2021)

- Investigated feature selection algorithms applied to LFP and neural spike data recorded from macaque monkeys
- Built a novel feature selector algorithm similar in performance on linear SVMs to PCA

COMPUTATIONAL NEUROSCIENCE RESEARCH

Under mentor Professor Zhang-Molina, Independent Project (Fall 2019 - Fall 2020)

- Researched post-inhibitory rebound-like effects in coupled integrate-and-fire neurons
- Analyzed highly nonlinear coupled differential equations and recursive maps
- Presented poster at JMM in January 2021

COMPUTATIONAL NEUROSCIENCE RESEARCH

Through The NRD Lab, Independent Project (Spring 2020 -Spring 2021), Summer 2020

- Researched how to implement a multidimensional Kalman filter into a biologically plausible attractor neural network
- Helped plan a novel experiment to test explore-exploit behaviors in school teachers
- Presented poster at UBRP conference in January 2021

PROJECTS

ONLINE EXPERIMENT PLATFORM

Project Lead and Developer (Fall 2020 -)

- Developed an online experiment platform (PsychoSite) for psychology labs to run human subjects on in a cost effective, secure way amidst the Covid-19 pandemic

TEACHING EXPERIENCE

TEACHING ASSISTANT FOR CALCULUS 2 & 3

Assisted Dr. Neville (Fall 2019), and Professor Sandler (Spring 2020)

- Led review sessions and several lectures for Calculus 3
- Held mixed office hours in Calculus 2, 3, and Statistics