JOHN LAZZARI
Applied Math Graduate

@ lazzarijohn@ufl.edu

i 954-296-1682

EDUCATION

2019-2023	Florida State University, Applied & Computational Mathematics, GPA : 3.82

RESEARCH EXPERIENCE

UF
Summer 2022

SURF REU, SAXENA LAB FOR NEURAL CONTOL,
Advisor : Dr. Shreya Saxena
> Trained an RL agent to act as a neuromechanical controller using an existing anatomically accurate mouse musculoskeletal model.
> Partnered with NVIDIA to create a massively parallel implementation of this RL task (Omniverse/Isaac Gym, other methods).

FSU
2021-2023

Undergraduate Researcher, DEEP LEARNING GROUP,
Advisor : Dr. Xiuwen Liu
> Evaluating and enhancing assembly embeddings using techniques from NLP such as Transformers and graph neural networks, as well as metric learning.
> Analyzed the spectral bias of neural networks through their training dynamics, specifically in low dimensional domains where the bias becomes severe.

FSU
2023-present

Undergraduate Researcher, COLLEGE OF NURSING,
Advisors : Dr. Hongyu Miao, Dr. Chengdong Li
> Training large language models on data relevant to Alzheimer's disease to enhance patient care.
> Utilizing LoRA for efficient fine-tuning of pre-trained LLaMA model on two NVIDIA A4000 GPU nodes.

FSU
2020-2021

Math Research Assistant, FSU MATH DEPARTMENT,
Advisors : Dr. Alex Casella and Dr. Lorenzo Ruffoni
> Developed software within a team of three using Unity and C# in order to visualize triangular structures in Euclidean, Hyperbolic, and Spherical geometries.
> Hyperbolic and Spherical structures were created using Moebius rotations in $\mathbb{CP}^1$.
> Program can be found at https://trungler.itch.io/tsv

PREPRINTS AND PUBLICATIONS

2022	S. Biswas, T. Barao, J. Lazzari, J. McCoy, X. Liu and A. Kostandarithes, "Geometric Analysis and Metric Learning of Instruction Embeddings," 2022 International Joint Conference on Neural Networks (IJCNN), Padua, Italy, 2022, pp. 1-8, doi : 10.1109/IJCNN55064.2022.9892426.

PRESENTATIONS

2022	A. Chacon, J. Lazzari, M.N. Almani, S. Saxena, "Evaluating Neural Strategies of Mouse Sensorimotor Control Using Deep Reinforcement Learning," IEEE Engineering in Medicine and Biology Society, Conference on Neural Engineering (IEEE/EMBS NER 2023), 1 page abstract
2021	Florida Undergraduate Research Conference Presentation
2021	UROP Symposium Presentation
2022	Neuromatch 2022

HONORS/AWARDS

2022	UF HWCOE Dean's Research Award