Jennifer Giordano, M.A.

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Education

Florida Atlantic University, Boca Raton, FL — May 2026
PhD Student, Center for Complex Systems & Brain Sciences, AI Development Minor
Stiles-Nicholson Brain Institute Fellow

University of North Carolina at Wilmington, Wilmington, NC
Master of Arts, Psychological Science — May 2020
Thesis: The relation of trauma symptoms & alcohol use to beta power and p300a latencies

Bachelor of Arts, Psychology Major, Neuroscience Minor — Dec. 2017

Technical Skills & Certifications

Operating Systems: Linux, MacOS, Windows
Programming: Python, R, Matlab, HTML, CSS, LaTeX, Pytorch, NumPy, Unity3D
Duke University Summer Machine Learning Bootcamp — July 2022
Kaggle Computer Vision Certificate — July 2022

Research Projects

Researcher, Biorobotics Lab — May 2024 – Present
Advisor: Erik Engerberg Ph.D.
Florida Atlantic University, Department of Ocean & Mechanical Engineering; College of Medicine
Electrophysiological Characterization of iPSC Organoids for Prosthetic Applications
· Culture and maintain iPSC organoid
· Matlab analysis of electrophysiological data from microelectrode array (MEA)

Researcher, Machine Perception & Cognitive Robotics Lab — Oct. 2021 – Present
Advisors: William Hahn Ph.D. & Elan Barenholtz Ph.D.
Florida Atlantic University, Center for Complex Systems & Brain Sciences
Privacy in AI & Neuroimaging Applications
· Implemented encryption techniques for secure AI analysis of fMRI data
· Project supported by the Palm Health Computational Neuroscience Fellowship
Psychophysics in Computer Vision
· Conducted data augmentation experiments to evaluate the reliability of computer vision models
Computational Adaptation of Hodgkin Huxley Model
· Developed a computational model of the HH spiking neuron, simulating the ionic conditions observed in neurodegenerative diseases.
· Generated visualizations to analyze the effects on neuron firing activity
Automated Radio Emergency System — Oct. 2022

· Implemented natural language processing and software-defined radio to receive requests and generate responses for emergency resources via radio during natural disasters.
· Received honorable mention in the South Florida TechHub Hackathon

Deep Reinforcement Learning with Unity 3D

· Created a simulated lab rat and maze environment using Unity 3D.
· Implemented reinforcement learning to train the virtual agent to navigate through the maze

Researcher, Forbes Social Neuroscience Lab Jan. – July 2022

Advisor: Chad Forbes, Ph.D.
Florida Atlantic University, Psychology Department
Photo Bio-Modulation Study

· Applied low-level light therapy for traumatic brain injuries in U.S veterans
· Administered neurocognitive assessments with EEG and collected biospecimens
· Studied the analysis of neural time series data

Researcher, Wei Molecular Neurodegeneration Lab Aug. – Oct 2021

Advisor: Jenny Wei, Ph.D.
Florida Atlantic University, College of Medicine
Synaptic Connectivity in Huntington's Disease

· Examined synaptic transmission in dendritic spines of HD pluripotent stem cells
· Performed immunohistochemistry and fluorescent antibody staining
· UV imaging & confocal live cell imaging processed with Nikon photo suite editor

Researcher II Oct. 2020 – May 2021

Supervisor: Robin Aupperle, Ph.D.
Laureate Institute for Brain Research, Tulsa, OK
Adolescent Brain Cognitive Development (ABCD) Study
A longitudinal examination of adolescent brain development

· Administer behavioral, clinical and neuropsychological surveys
· Monitor fMRI & administer experiments during scan
· Research funded by the National Institute of Health (NIH)

Research Assistant Jan. 2020 – May 2020

Advisors: Sabrina Cherry, Dr.PH & Dr. Stephanie Smith, Ph.D.
University of North Carolina Wilmington, Health & Applied Human Services Department
Superfund Sites in Navassa, NC – A Local Community Environmental Justice Project
An examination on the impact of living and working near hazardous chemical sites.

· Analyze and prepare data visualizations for professional presentations
· Conducted literature reviews and composed manuscript drafts
· Research funded by the UNCW Applied Initiatives Grant

Research Assistant, Trauma & Resilience Lab Aug. 2018 – May 2020

Advisor: Kate Nooner, Ph.D.

University of North Carolina Wilmington, Psychology Department

College Alcohol Study

A study of the relation between trauma, drinking behaviors, and brain function in young adults

· Collect encephalography (EEG) data (BioSemi & Evoke Neuroscience Systems)

· Process, analyze, and interpret EEG data using Neuroread, Matlab, SPSS, & R Software

· Taught research guidelines and mentored ten undergraduate students

Research Assistant, Applied Neuroscience Laboratory Aug. 2017 - Aug. 2018

Advisors: Dr. Julian Keith, Ph.D. & Dr. Len Lecci, Ph.D.

University of North Carolina Wilmington, Psychology Department

SportGait Concussion Management Project

Partnership with local startup to improve reliability and sensitivity of TBI assessments

· Assist with pre-season concussion assessments for student athletes

· Complete patient intake, and administer gait, balance, and neuropsychological assessments

· Demonstrate protocol for investors & train healthcare professionals around the U.S.

Publications & Presentations

Benavidez, M. **Giordano, J.** Hugo, J. Hahn, W. (2024) Enhancing Medical Image Classification Through GAN-Augmented Datasets: A Comparative Study on Cardiomegaly and Pneumonia Detection. Submitted to the 37th Florida AI Research Society Conference (FLAIRS-37). Pending Acceptance.

Penel, J. **Giordano, J.** Hahn, W. (2023) Advancing Artificial Psychophysics Through the Use of RunTime Augmentation. Presented at the 12th annual FAU Broward Student Research Symposium, Davie, FL, November.

Giordano, J. (2022) Object Recognition in Out-of-Distribution Environments. Talk presented at the FAU Center for Complex Systems Spring Seminar.

Giordano, J. Interdisciplinary Minority Student Research Group (IMSURG) (2020) Keynote Panel Speaker; Experience working on a local environmental justice project. Virtual conference for the Applied Learning Summer Institute. Wilmington, NC, August.

Giordano, J. Campbell, A. (2020) Does Anxiety Predict Low Heart-Rate Variability? Submitted to the Charleston Child Trauma Conference. Charleston, SC, October (Cancelled due to COVID-19).

Giordano, J. (2020) The Relation of Trauma Symptoms & Alcohol Use to Beta Power and p300a Latencies. Published in the UNCW Graduate School Virtual Library, August.

Giordano, J. Cherry, S. Smith, S. Sutton, B. (2020). The convergence of Family, Community & Industrial History. Poster presented at the UNCW Research & Innovation day. Wilmington, NC, March.

Meiers, G., **Giordano, J.,** Nooner, K. (2019). Relation of Maltreatment and Alcohol Use to Cortical Brain Function in Adolescents. Poster presented at the annual convention of the Association for Behavioral and Cognitive Therapies. Atlanta, GA, Nov.

Jones, H., Robinson, C., Wilt, J., **Giordano, J.**, Keith, J., & Lecci, L. (2019). SportGait vs. ImPACT: Comparative evaluation of the test-retest reliability of sport concussion instruments. Poster presented at the annual convention of the Association for Psychological Science. Washington, DC, May.

Funding

Palm Health Computational Neuroscience Fellowship – Research Assistantship (Spring 2024)
Stiles-Nicholson Brain Institute Fellowship – 30k annually (2021-2025)
FAU Graduate Grant – $2,400 (2023)
UNCW Travel Grant - $800 (2020)

Professional Affiliations

FAU Center for Complex Systems and Brain Sciences
The Machine Perception & Cognitive Robotics Lab
FAU Stiles-Nicholson Brain Institute – Fellow
FAU College of Electrical Engineering
FAU Center for the Future Mind

Graduate Coursework

Computational Foundations of AI	Artificial Intelligence
Deep Learning	Nonlinear Dynamic Systems
Methods in Complex Systems	Biological Complexity
Data Mining & Machine Learning	Cellular & Molecular Neuroscience
Systems Neuroscience	AI in Healthcare
Advanced Physiological Psychology	Developmental Psychology
Research Design	Cognitive Psychology
Quantitative Methods for Psych I & II	Social Psychology

Extracurricular & Leadership

Coordinator, FAU AI Safety Symposium Boca Raton, FL — Dec. 2023
Math Tutor – Get That Grade Tutoring LLC — 2023- 2024
FAU Robotics Club — 2023
Undergraduate Student Research Mentor – 6 Students — 2020
Intermediate Statistics Lab Instructor – 80+ undergraduate students — 2023
ABCD Justice Equity Diversity & Inclusion Taskforce — 2020-2021
LIBR Philanthropy & Community Involvement Subcommittee — 2020-2021
- Coordinated Fundraiser for Local Foodbank, providing over 100 meals
- Research Penpal - Mentored local elementary school students on careers in neuroscience

Brookdale Dementia Care — 2019
Psychology Graduate Student Association (PGSA) – Vice President — 2019 - 2020