Samuel D. Naranjo Rincon

Curriculum Vitae

EDUCATION

Washington University St Louis   Aug 2023 – Present

Ph.D. Student in Computational and Data Science

University of Central Florida   Jan 2019 – May 2023

B.S. in Psychology - Neuroscience Track
- Cumulative GPA: 3.7 / 4.0

AWARDS & SCHOLARSHIPS

Olin-Chancellor Fellowship, Fellow	2023
NSF GRFP Winner, Fellow	2023
NSF GRFP Honorable Mention	2021
McNair Summer Program Fellow, $2,000	Jun 2020 – Aug 2020
NSF Fellow at MIT Summer Research Program (MSRP)	Jun 2020 – Aug 2020
Dean's/President's list at both Rollins College and UCF	2017 – 2020
Hamilton Holt Scholarship $5,000	2018
Intel State (FL) Science and Engineering Fair, 3rd Place	2017
Intel Regional Science and Engineering Fair, 2nd Place	2017

RESEARCH EXPERIENCE

Washington University St Louis (WU)   Aug 2023 – Present

PhD Student, Radiology Department & McKelvey Department, Personomics Lab
- Use geometric deep learning (gDL) to incorporate brain imaging data into deep learning algorithms. Focus is on how deep learning algorithms, like Transformers, can be adapted into gDL and used to translate across brain representations. Current project is on using a Surface Image Transformer to translate from ICA brain maps (gray ordinates) to PROFUMO bi-variate correlation matrices (Network Matrices).
- PI: Janine Bijsterbosch

Indiana University (IU)   Jun 2021 – Jun 2023

Lab-Technician/Post-Baccalaureate, Psychological and Brain Sciences Department, NiMBLe Lab
- 2-year post-bachelor position funded by a R01 project. Employed various "large-scale brain network dynamics" methods to probe the potential relationship between Theory of Mind (ToM) and age. Brain dynamics methods include sliding-window time varying functional connectivity and edge time series (edge-centric) analyses. Collected MRI data, helped preprocess it (fMRIPrep, CONN Toolbox, SPM12), and lead 2 projects: (1) How time-varying functional connectivity captures differences in resting state dynamics across age groups; (2) Age related differences in co-activation patterns, large-scale brain network modularity (community detection), co-activation time lags, and other edge time series properties.
- Lab-Tech position role consisted of data collection through the IADRC NACC UDS version 3.0 on oder adults to gain insight into the social network dynamics, social cognitive decline, and general cognitive ability of subjects. Used Redcap and obtained CITI training to secure, collect, and manage behavioral data. Trained to be a level 2 MRI operator for data collection at the IU Image Research Facility center.
- Supervisor: Anne Krendl, Ph.D. Collaborator: Richard Betzel, Ph.D.

Massachusetts Institute of Technology (MIT)   Jun 2020 – Jan 2021

Center for Brain, Minds and Machines (CBMM), McGovern Institute

Visiting Researcher, McGovern Institute, Desimone Laboratory
- Built an LFP-LFP effective connectivity pipeline with FieldTrip Toolbox. Role was to research how the dorsal attention pathway in a macaque monkey cortex disseminated information for an attention guided working memory task. Discovered that the hierarchical nature of the brain (top-down processes vs. Bottom-up) is also maintained in the order that neural signals get processed. Most bottom-up processes were in theta, alpha, and beta bands. Conversely, top-down processes were usually in gamma bands, reflecting how the brain communicates internally across frequency bands.
- Connectivity analyses explored: Grainger Causality, Phase-Lock Index, Phase-Lag Index, Pairwise phase consistency, & Phase-Slope Index
- Supervisors: Diego Menodoza-Halliday, Ph.D. and Robert Desimone, Ph.D.

University of Central Florida (UCF)   May 2019 – Dec 2020

Undergraduate Research Student, Psychology Department, MPACT Laboratory
- Contributed in producing a novel study on the relationship between amplitude of attention ERPs and working memory and attention deficits across a transdiagnostic psychiatric sample.
- Collected biological data from participants to study the relationship between IL-6 hormone and anhedonia.
- Supervisor: Jeffrey Bedwell, Ph.D.

University of Central Florida (UCF)   Jan 2019 – May 2020

Undergraduate Research Student, Psychology Department, AD&D Laboratory
- Used fMRI data procedures (preprocessing, ROI, FSL, parcellations in FREE SURFER, etc.) and bash scripting for study on age-related differences in neurological correlates of decision making among young adults and older adults.
- Supervisor: Nichole Lighthall, Ph.D.

Rollins College

Undergraduate Research Student, Psychology Department   Sep 2018 – Dec 2018
- Identified and analyzed relevant articles for a literary review on the association between repulsion and authoritarian personality.
- Supervisor: David C.S. Richard, Ph.D.

- Worked on a pilot study assessing the effects of mindfulness on student's academic performance. Co-author of literary review, IRB proposal, and primary data collector. Also, tasked with running data through SPSS to see possible relationship between mindfulness meditation and academic performance.
- Supervisor: Stacy Dunn, Ph.D.

University of Central Florida (UCF)   Aug 2016 – Feb 2017

Undergraduate Research Student, Psychology Department, UCF
- Explored the effects of anxiety and identity development on moral consistency. Learned SPSS, processed data through SPSS and presented results at science fair.
- Supervisor: Steven Berman, Ph.D.

CONFERENCES   Naranjo Rincon, S., Betzel, R., & Krendl, A. (2022).
Age-related differences in theory of mind: A time-varying functional connectivity approach. Gerontological Society of America, Indianapolis, IN.

Quazi, N., Naranjo Rincon, S., Mendoza-Halliday, D., & Desimone, R. (2020).
Effective Connectivity across visual hierarchy assessed by LFP-LFP phase slope index. Summer MIT program poster session in the Center from Brains Minds and Machines (CBMM), Cambridge, Massachusetts.

Naranjo Rincon, S., Salgari, G., Spencer, C.C., Chan, C.C., Monaghan, K., & Bedwell, J.S. (2020).
Event-related potentials following rare visual targets and working memory ability in a transdiagnostic psychiatric sample. 32nd Annual Convention of the American Psychological Society, Chicago, IL.

Naranjo Rincon, S., Giulia, S., Spencer, C., Chan, C. & Monaghan, K. (2020). Event-related potentials following rare visual targets and working memory ability in a transdiagnostic psychiatric sample. Presented at the Showcase for Undergraduate Research Excellence, Orlando, FL.

Naranjo Rincon, S., & Berman, S. (2017). Effects of anxiety and identity development on moral consistency. Poster presented at the State Science and Engineering Fair (Intel SSEF), Sandford, Florida.

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Cognitive Science Club, Treasurer, UCF

McNair Program, Member, UCF

2017 Society for Sciences & the Public, Alumnus, UCF

Multidisciplinary Neuroscience Alliance, Member, UCF

Multicultural Psychological Student Association (MPSA), Member, UCF