Sarah Hennessy, PhD

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PROFILE

I am a cognitive neuroscientist with interdisciplinary experience using machine learning methods to uncover behavioral, physiological, and neural patterns associated with human behavior. I use data-driven insights and social scientific knowledge to drive meaningful change in academic and industry settings.

SKILLS

Programming and analytic tools: Python (numpy, pandas), R, MATLAB, SQL, MySQL, DBeaver, AWS, MSAccess,Qualtrics, SPSS, SASViya, visualization in Tableau, QuickSight, ggplot, matplotlib

Statistical Methods: Longitudinal analysis, HLM, growth models, non-parametric methods, factor analysis, dimensionality reduction, classification (SVM, Bayes, random forest), clustering

EXPERIENCE

Postdoctoral Research Scientist, *Department of Psychology,* University of Arizona **start Fall 2024**

PhD Student Researcher, *Brain and Creativity Institute,* University of Southern California **2019-2024**

- Conducted 10+ human-subjects research projects with 1,000+ participants, utilizing research methods including physiological (fMRI, EEG), survey (Qualtrics), and qualitative interviews
- Analyzed data using robust statistical methods in R, Python, and MATLAB (30-20,000 responses)
- Managed $200k+ in research funding, published in peer-reviewed journals
- Hired and managed a team of 55 research assistants, providing mentorship in research, writing, and statistics

Data and Research Scientist, *Rubato Life* **2022-2023**

- Partnered with CEO of startup to develop scientific protocol for clinical trials investigating effects of a personalized music-curation app for stress reduction in a variety of clinical populations
- Developed dynamic data visualization dashboard, integrated physiological (HR, HRV) and music information retrieval (MIR) data using QuickSight
- Analyzed 1m+ datapoints, created visualizations in QuickSight, R, and Python for reports to update current and potential investors using physiological and human-response datasets

Research Manager, *Brain and Creativity Institute,* University of Southern California (Dr. Assal Habibi) **2017- 2019**

- Collected data from 100+ participants in a longitudinal study with children from underserved communities of LA
- Conducted behavioral and neuroimaging analyses, communicated insights to different audiences in 5+ presentations to academic and non-academic audiences

EDUCATION

University of Southern California

Ph.D., Brain and Cognitive Sciences **2019- 2024**

Advisors: Antonio Damasio, MD, Assal Habibi, PhD

Dissertation: *Neural Correlates of Music-Evoked Nostalgia Across the Lifespan*

M.A., Brain and Cognitive Sciences **2019-2021**

Occidental College

B.A., Psychology; Minor: *Ethnomusicology; Magna Cum Laude* **2013-2017**

Departmental Honors, Departmental Distinction

RESEARCH GRANTS (awarded as PI) and Honors

- *USC Excellence in Scientific Writing Award* (2024)
- NIH T32 *Hearing and Communication Neuroscience* (2023-)
- Gold Family Fellowship ($5k)
- SEMPRE 50th Anniversary Research Award ($16k) *(2022)*
- GRAMMY Museum Scientific Research Grant ($20k) *(2022)*
- USC Department of Psychology Doctoral Research Grant Award ($1k-5k) *(2021, 2022,2023)*
- USC Psychology Research Continuity Award ($1k) *(2020)*

SELECTED PUBLICATIONS

Hennessy, S., Greer, T., Narayanan, S, Habibi, A.. (in press). Unique affective profile of music-evoked nostalgia: An extension and conceptual replication of Barrett et al., 2010. *Emotion.*

Hennessy, S., Mack, W. J., & Habibi, A. (2022). Speech-in-noise perception in musicians and non-musicians: a multi-level meta-analysis. *Hearing Research*, 108442.

Hennessy, S., Wood, A., Wilcox, R., & Habibi, A. (2021). Neurophysiological improvements in speech-in-noise task after short-term choir training in older adults. *Aging*.