NYKKO VITALI

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Education

2024 - Present	🔖	**Ph.D. Student, Harvard University** Doctoral Program in Psychology
2018 – 2020	🔖	**B.A., University of Pennsylvania** Major in Psychology *Cum Laude*
2016 – 2018	🔖	**A.A., Community College of Philadelphia** Major in Psychology *Highest Honors*

Employment History

2021 – 2022	🔖	**Clinical Research Coordinator,** Frontotemporal Degeneration Center, University of Pennsylvania
2022 – 2024	🔖	**UX Research Assistant,** Exponent

Awards and Achievements

2025	🔖	**Rand Fund Grant**, Using NLP to Study Online Moral Discourse, $8,000
2018	🔖	**Magner Nichols Public Speaking Award**, 2nd Place
2016	🔖	**Phi Theta Kappa Honor Society**

Research Publications

Journal Articles

1. S. A. Lehr, K. S. Saichandran, E. Harmon-Jones, N. Vitali, and M. R. Banaji, "Kernels of selfhood: GPT-4o shows humanlike patterns of cognitive dissonance moderated by free choice," *Proceedings of the National Academy of Sciences*, vol. 122, no. 20, e2501823122, 2025. 🔗 DOI: 10.1073/pnas.2501823122.

2. E. Rhodes, D. Mechanic-Hamilton, J. S. Phillips, *et al.*, "Discrepancies in patient and caregiver ratings of personality change in Alzheimer's disease and related dementias," *bioRxiv*, 2023. 🔗 DOI: https://doi.org/10.1093/arclin/acad079.

Research Interests

🔖 Computational social science, large language models, natural language processing, cognitive immunity, metacognition

Technical Projects

ClaudeR   2025

Developed an R package that bridges RStudio with LLMs, enabling interactive coding sessions where LLMs execute code, iteratively solve errors and displays results in real time. **GitHub Repository**.

ParticleVerse   2024

Created a visionOS app that leverages advanced hand-tracking to create and manipulate particle effects. Features dual modes with unique gesture controls, an integrated guide for user interaction, and real-time content generation—all while preserving user privacy. **Project Website**.

Neuroimaging AR Pipeline for Vision Pro   2024

Developed a processing pipeline to convert 7T MRI scans into interactive 3D brain models for Apple Vision Pro using FreeSurfer, custom Python scripts, and Blender for anatomical visualization. **LinkedIn Post**.

Document Retrieval with BERT embeddings   2023

Constructed a language model tool for offline document search using sentence embeddings and cosine similarity, enabling secure information retrieval within proprietary environments. **GitHub Repository**

Technical Skills

Coding	🔖	R, Quarto, Python, Swift, Bash, MCP
Databases	🔖	PostgreSQL, MongoDB
Web Dev	🔖	Html, css, JavaScript, Flask