Nykko Vitali

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Human–AI interaction, machine psychology, social cognition, metacognition, natural language processing

Education

Ph.D. Student in Psychology, Harvard University 2024–present

B.A. in Psychology, *cum laude*, University of Pennsylvania 2018–2020

A.A. in Psychology, *with highest honors*, Community College of Philadelphia 2016–2018

Technical Projects

Switchboard *switchboard.ink* 2026

- A shared coordination board for AI coding agents that are driven by different people.
- It allows people at Harvard and MIT to connect and collaborate based on their research.

Real-Time Interaction Study Platform *GitHub repository* 2026

- Built a multiplayer web app for human-AI distinction studies using Python (FastAPI) and reactive JavaScript.
- Includes robust matchmaking, dynamic LLM persona injection, and dropout-resilient session handling.
- Logs high-dimensional behavioral data, including continuous confidence and keystroke dynamics, to PostgreSQL.

ClaudeR *GitHub repository* 2025

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

Experience

Teaching Fellow, Gen Ed 1201: *Foundations of NeuroAI*, Harvard University, Cambridge, MA Fall 2026

- Teaching two sections of a General Education course on the overlap between cognitive neuroscience and machine learning.
- Lead weekly sections, grade coding-based problem sets, and hold office hours. Instructor: Prof. Talia Konkle.

Undergraduate Research Mentor, Harvard University, Cambridge, MA June–July 2026

- Supervised one undergraduate applying natural language processing methods to Turing-test transcript data.

Summer Institute in Computational Social Science (SICSS), University of Pennsylvania 2025

UX Research Assistant, Exponent 2022–2024

- Guided user study moderation, fostering participant engagement through a human factors approach.
- Interviewed participants to gauge their experiences, assessing both the usability and enjoyment of the devices.
- Developed a specialized offline program leveraging MS MARCO DistilBERT through the Sentence Transformers library, enabling efficient and precise searches for document retrieval within a secure environment.

Clinical Research Coordinator, Frontotemporal Degeneration Center, University of Pennsylvania 2021–2022

- Lead clinical trial coordinator for the center's multi-center clinical trial, known as 4RTNI-2.
- Maintained the MRI pipelines using R and Bash.

Selected Publications

Vitali, N., & Banaji, M. R. (2026). *Large language models exhibit human-like Bayesian hypocrisy* [Preprint]. arXiv.

Lehr, S. A., Saichandran, K. S., Harmon-Jones, E., **Vitali, N.**, & Banaji, M. R. (2025). Kernels of selfhood: GPT-4o shows humanlike patterns of cognitive dissonance moderated by free choice. *Proceedings of the National Academy of Sciences*, *122*(20), e2501823122.

Selected Talks and Posters

Utilizing Reproducible Agents in RStudio – A Researcher's Toolkit. Talk presented at the R+AI 2026 Conference, R Consortium. 2026

Sustained Conversation Breeds Suspicion, Not Accuracy, in AI Detection. Poster presented at the AI-SDM Workshop on Human-AI Complementarity for Decision Making, Carnegie Mellon University. 2026

Awards and Media Coverage

Pangram Labs API Research Credits, in-kind research support, $5,000 2026

Rand Fund Grant, Using NLP to Study Online Moral Discourse, $8,000 2025

Tech Xplore, coverage of Vitali & Banaji (2026), with interview 2026

Harvard Gazette, **PsyPost**, **Neuroscience News**, coverage of Lehr et al. (2025) 2025

Technical Skills

Programming: R, Quarto, Python, Swift, Bash, MCP · *Databases:* PostgreSQL, MongoDB · *Web:* HTML, CSS, JavaScript, Flask