Naiti S. Bhatt

Contact Information

naitibhatt@gmail.com
naitisb.github.io

Academic & Research Experience

Postgraduate Researcher, **University of Edinburgh** — September 2022 – September 2025
Supervisor: Dr. Hilary Richardson
- Developed methods to investigate associations between behavioral data using a theory of mind task and neural data extracted from structural and functional MRI in 5- to 12-year old children.
- *Methods & Skills:* Python, Linux, R, fMRI (fMRIPrep, FSL), DTI (FSL, MRtrix3, ANTs)

Writing Tutor, **PPLS Skills Centre** — September 2023 – August 2025
Supervisor: Jim Donaldson
- Guided students through editing process for various writing projects, from coursework to dissertations.

Open Research Facilitator, **PPLS Open Science** — October 2023 – August 2025
Supervisor: Dr. Neil Bramley
- Lead open science practices within ongoing research at the School of Philosophy, Psychology, and Language Sciences by hosting information sessions and holding appointments.
- Initiated Peer Code Review program to encourage reproducibility, auditability, and other best practices.

Junior Research Associate, **New York University** — May 2021 – August 2022
Supervisor: Dr. Catherine A. Hartley
- Characterized developmental changes in attentional strategies, social abilities, and mnemonic specificity as related to reward-driven decision-making around adolescence, while also managing lab operations (ethics, finances, codebase).
- *Methods & Skills:* Python, HTML/CSS, Linux, jsPsych, Prolific, Qualtrics, Reinforcement Learning, Eye-Tracking, fMRI

Software Engineer (Part-Time), **Stanford University** — June 2021 – October 2021
Supervisor: Dr. Hyowon Gweon
- Streamlined participant database retrieval and organization to integrate RedCap information with new scripts.
- *Methods & Skills:* Python, RedCap, SQL

Contributing Developer, **Peekbank Project** — August 2020 – May 2021
Supervisors: Dr. Martin Zettersten (Princeton), Dr. Michael C. Frank (Stanford)
- Imported and standardized developmental eye-tracking data for a large-scale, multi-institution database, containing data from ∼20 labs.
- *Methods & Skills:* R, Database Organization and Management

STEAM Coordinator, **Scripps College Academy** — January 2021 – May 2021
Supervisor: Aimme Arrayga
- Implemented program for >80 underrepresented high schoolers in Los Angeles and Inland Empire area to provide access to experiences in science, technology, engineering, art, and mathematics.

Undergraduate Thesis Researcher, **Scripps College** — August 2020 – May 2021
Supervisors: Dr. Bria Long (Stanford), Dr. Michael C. Frank (Stanford), Dr. John G. Milton (Scripps)
- Crafted tools for recognizing objects in infant egocentric head-mounted camera video frames to train computer vision models and inform early word learning.
- *Methods & Skills:* Python, Tensorflow, Detectron2, R, Computer Vision, Statistical Modeling

Summer Research Intern, **Stanford University** — June 2020 – August 2020
Supervisors: Dr. Bria Long, Dr. Michael C. Frank
- Crowdsourced labels for categorizing objects in frames from infant egocentric and naturalistic videos to create and analyze an annotated dataset to characterize early infant visual experiences.
- *Methods & Skills:* Amazon Sagemaker, R, Python, Amazon Mechanical Turk, Javascript

Summer Research Intern, **University of Minnesota** — May 2019 – August 2019
Supervisors: Dr. Katherine E.M. Tregillus, Dr. Stephen A. Engel
- Evaluated classifiers using fMRI patterns of activation to predict perceived color and uncover plasticity of illusory color perception from the McCullough Effect illusion.
- *Methods & Skills:* MATLAB, fMRI, Linux, Supervised Machine Learning

Education

University of Edinburgh, Edinburgh, UK — 2022 – 2023
M.Sc. in Psychological Research — Awarded With Merit
Advisor: Dr. Hilary Richardson

Scripps College, Claremont, USA — 2017 – 2021
B.A. in Computer Science and Neuroscience — Cum Laude
Advisors: Dr. Tessa Solomon-Lane and Dr. Julie Medero

Teaching Experience

Lab Teaching Assistant, University of Edinburgh
- *Data Analysis for Psychology in R 1* (PSYL08013) with Dr. Umberto Noe — Autumn 2023 - Spring 2025
- *Psychology 1A/B* with Dr. Hannah Cornish — Autumn 2023 - Spring 2024
- *Data Analysis for Psychology in R 3* (PSYL10168) with Dr. Umberto Noe — Autumn 2023

Teaching Assistant, Harvey Mudd College
- *Computability and Logic* (CSCI-081) with Dr. George Montañez — Spring 2020

Teaching Assistant, Pomona College
- *Calculus II w/ Applications to Science* (MATH-031S) with Dr. Blerta Shtylla — Autumn 2019

Programming Projects

Manifold-based Binary Classification using Jointly Embedded Geometric Data
Nonlinear Data Analytics (MATH-178) — Summer 2020
- Jointly embedded mobile phone data and eye tracking data in low dimensional manifold space to more effectively reproduce the classification of whether or not users were attending to their phones.

Endangered? A tool for labeling and classifying animals in the wild.
Software Development (CSCI-121) — Autumn 2019
- Built a React Native application classifying an uploaded image of an animal, returning predicted genus, species, and conservation status for users to interact with the natural world with concern for other species.

Professional & Academic Service

Postgraduate Research **Student Representative** in Psychology — 2023-2025
Psychology Society Community & Research Association **Postgraduate Liason** — 2022-2023
Programme Representative for M.Sc. Psychological Research — 2022-2023
Flux Society Pre-Conference **Workshop Facilitator**: Computational Modelling in Development — 2021
Conference Volunteer
- Women in Machine Learning @ NeurIPS — 2021
- Women in Machine Learning @ NeurIPS — 2019

Fellowships, Awards, and Honors

UKRI Economic and Social Research Council Doctoral Training Studentship — 2022 – 2025
Scripps College Humanities Institute Fellowship — 2021
Scripps Success Grant Scholarship — 2020 – 2021
NSF REU at the Center for the Study of Language and Information (Award #1950223) — 2020
Scripps Student Conference Travel Fund — 2019
NSF REU in Cognitive Science and Neuroimaging (Award #1757390) — 2019
Scripps College Dean's List — 2018, 2020

Peer-Reviewed Publications and Posters

[1] **Novelty and uncertainty differentially drive exploration across development**
eLife, 2023
Kate Nussenbaum, Rebecca E. Martin, Sean Maulhardt, Yi Yang, Greer Bizzell-Hatcher, ***Naiti S. Bhatt***, Maximilian Scheuplein, Gail M. Rosenbaum, John P. O'Doherty, Jeffrey Cockburn, & Catherine A. Hartley

[2] **Peekbank: Exploring children's word recognition through an open, large-scale repository for developmental eye-tracking data**
Behavior Research Methods, 2022
Martin Zettersten, ..., ***Naiti S. Bhatt***, Claire A. Bergey, & Michael C. Frank

[3] **Characterizing the object categories two children see and interact with in a dense dataset of naturalistic visual experience**
Proceedings of the 43rd Annual Conference of the Cognitive Science Society, 2021
Bria Long, George Kachergis, ***Naiti S. Bhatt***, & Michael C. Frank

[4] **Peekbank: Exploring children's word recognition through an open, large-scale repository for developmental eye-tracking data**
Proceedings of the 43rd Annual Conference of the Cognitive Science Society, 2021
Martin Zettersten, Claire A. Bergey, ***Naiti S. Bhatt***, ..., & Michael C. Frank

[5] **Classification Analyses of fMRI Data Predict Perceived Color**
Poster presented at Southern California Conference for Undergraduate Research (SCCUR), 2019
Poster presented at Bay Area Vision Research Day (BAVRD), 2019
Naiti S. Bhatt, Katherine E.M. Tregillus, & Stephen A. Engel