Adhara Martellini

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EDUCATION

2025- **École Normale Supérieure – PSL**
M.S. in Cognitive Science

2019-2023 **Stanford University**
B.S. in Symbolic Systems, Minor in Creative Writing
Concentration: Neurosciences
Relevant Coursework: Computer Organizations and Systems, Deep Learning, Mathematical Foundations of Computing, Applied Matrix Theory, From Languages to Information, Cognitive Neuroscience, Human Neuroimaging Methods, Conceptual Issues in Cognitive Science
Advisor: David Eagleman
Select Activities: Stanford Brain-Computer Interface (BCI)

RESEARCH EXPERIENCE

Technical Associate *(June 2025 – September 2025)*
Massachusetts Institute of Technology (MIT)
PI: Evelina Fedorenko

- Led a research project targeting emotional prosody in the human brain. Gained experience with fMRI and behavioral experiments; worked with professional actors to create experimental stimuli.

Senior Research Associate & Lab Manager *(August 2023 – June 2025)*
Massachusetts Institute of Technology (MIT) / Howard Hughes Medical Institute (HHMI)
PI: Mehrdad Jazayeri
Graduate coursework: Neurobiology of Self (Prof. Fan Wang), Quantitative Methods and Computational Models in Neurosciences (Prof. Mehrdad Jazayeri), Tools for Robust Science (Prof. Rebecca Saxe)

- Co-wrote a successful DoD grant focused on embodied emotion research in non-human primates. Conducted literature review in the science of emotion and brain-body interaction and designed experiments.
- Conducted lab procedures including surgical assistance, behavioral training and testing, animal handling, human subject recruiting.
- Coordinated and managed all lab operations, including protocol development, compliance inspections, financial planning, and personnel management (hiring, onboarding and training).
- Acted as a primary liaison between the lab and other on-campus departments to streamline daily operations.

Research Intern *(June 2022 – December 2022)*
Stanford Cognitive & Systems Neuroscience Laboratory
PI: Vinod Menon

- Designed and implemented a suite of Bayesian hierarchical models to simulate human behavior in the Balloon Analog Risk Task based on different cognitive theories of learning and decision-making.
- Executed MCMC inference on multi-cohort data sets (n = 300+ participants).
- Delivered model performance evaluations based on 30+ analysis metrics and parameter recovery.

Computational Astrophysics Intern *(June 2017 – August 2017)*
UC Santa Cruz Department of Astronomy & Astrophysics

PI: Puragra Guha Thakurta

- Conducted spectroscopic analysis and statistical classification of the origins of orphan globular clusters in Virgo galaxy cluster; paper selected for the semifinals of Siemens competition USA.

INDUSTRY EXPERIENCE

Data Science Intern – Precision Oncology ***(****June 2020 – March 2021)*
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- Built generative models for simulating patient biomarker profiles and expert treatment rankings.
- Developed and tested Bayesian predictive models that anticipate treatment options and treatment outcomes for novel cancer cases.
- Implemented and benchmarked reinforcement learning algorithms for patient-specific treatment recommendation systems.

PUBLICATIONS & PRESENTATIONS

Martellini, A. *Modeling Human Risk Behavior Using Bayesian Hierarchical Models*. Stanford Symbolic Systems Poster Fair (2022)

Kaye, T., Tuan, J.Z., Martellini, A., et al. *Comparison of Intra-cluster and M87 Halo Orphan Globular Clusters in the Virgo Cluster*. American Astronomical Society Meeting #231 (2018)

AWARDS

2nd Place – Health{hacks} Innovation Hackathon, Healthcare Informatics & Biocomputation Track (2022)
Finalist – Page Turner Awards, Young Writer Category (2021)
1st Prize – Concours Général des Lycées, France, English Literature & Translation (2019)

TEACHING & MENTORSHIP

Lab Mentor – Jazayeri Lab, MIT (2023–Present)

- Supervised researchers and administrative and technical staff.
- Conducted lab trainings and occasionally led lab meetings (journal clubs, project updates).
- Advised PI on personnel, operational, and financial decisions.

Instructor (K-2) – Hatch Learning / Oak Knoll Elementary School (2022)

- Taught computational thinking using unplugged robot designed by Stanford faculty (PockeTurtle curriculum).

CREATIVE & COMMUNICATION WORK

- **Stanford Prison Renaissance** (2019-2021): collaboration with incarcerated artists at San Quentin State Prison to center their voices in conversations about incarceration, education and creative expression.
- ***ConSCIience Journal*** (2019-2020): project led with other Stanford students for the online publication of science communication articles addressed to a non-scientific audience. Articles written: “AI-art: can robots create beauty?”; “Love and the brain: a chemical romance”; “Seeing the unseeable: how researchers made the Earth-size telescope needed to observe a black hole”.
- Author of ***Beauty*** (published 2018), a coming-of-age novel for young teenagers.
- Experienced in visual arts, including digital illustration and painting.
- Active in theater, performance art, and narrative storytelling across personal and academic projects.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, MATLAB, Julia, Stan, JAGS
Tools: Fusion 360, Blender, Figma, Adobe Illustrator, Procreate, 3D Printing
Languages: French, English