Alana Jaskir

Postdoctoral Researcher, Hartley Lab
Department of Psychology
New York University
aj4618@nyu.edu · 609-947-7642 · amjaskir.github.io

Education

Brown University — Providence, RI
Ph.D. Cognitive Science, *GPA: 4.0/4.0* — 2018 - 2024
Specialization in Computational Neuroscience

Fulbright Student Program — Rivne, Ukraine
English Teaching Assistant — 2017-2018

Princeton University — Princeton, NJ
B.A. Computer Science, *magna cum laude* — 2013-2017
Minor in Cognitive Science
Award: Outstanding Computer Science Senior Thesis

University College London — London, UK
Affiliate Student in Computer Science — Spring 2016

Honors and Awards

Carney Brainstorm Challenge Winner — Brown University
$1500 prize for behavioral/intracranial neural analyses — 2024

Carney Graduate Award in Brain Science — Brown University
Recognizes outstanding and productive mid- to late-stage Ph.D. candidates. Provides academic year stipend and professional development funds. — 2023-2024

Interactionist Cognitive Neuroscience Training Grant (T32) — Brown University
Competitive institutional training grant awarded to advanced pre-doctoral students pursuing research at the intersection of computational sciences, human cognitive neuroscience, and systems neuroscience. — 2021 - 2023

The Multi-disciplinary Conference on Reinforcement Learning and Decision Making (RLDM) Student Travel Award — 2019

NSF Graduate Research Scholarship (Honorable Mention) — 2017 & 2019

U.S. Fulbright Student Program Grantee — 2017-2018

Outstanding Computer Science Senior Thesis — Princeton University
Awarded by the Computer Science department — 2017

Thesis Research Grant — Princeton University
Awarded by the Office of the Dean of the College — Summer 2016

Computing Research Association (CRA) Research Scholar — Grace Hopper*
Travel award for conference and professional networking events for research-interested students — 2016

Conference Travel Award — Grace Hopper*
Awarded by Princeton Women in Computer Science — 2014

Mary R. Molina Education Scholarship — 2014-2015

Integrative Science Research Grant — Princeton University
Awarded by Lewis-Singler Institute for Computational Biology — Summer 2014

**Grace Hopper Celebration for Women in Computing*

Publications

Jaskir, A., Frank, M.J. (in preparation.). "Generalization in human reinforcement learning reflect reward-predictive state abstractions."

Gallo, M., A.A. Hamid, **A. Jaskir**, J. Bretton, T. Pan, D. Ofray, M.J. Frank, C.I. Moore, K.G. Bath (in preparation.). "Early life adversity alters dopamine signaling underlying diminished reward sensitivity and slowed reinforcement learning in mice".

Jaskir, A., Frank, M.J. (2023). "On the normative advantages of dopamine and striatal opponency for learning and choice." eLife. doi.org/10.7554/eLife.85107

Invited Talks

"Discovering analogous structure supports transfer in human reinforcement learning" 2024
Computation and Decision-Making Lab, NYU

Schuck Lab, University of Hamburg
"Discovering analogous structure supports transfer in human reinforcement learning" 2024
Schuck Lab, University of Hamburg

"On the normative advantages of basal ganglia opponency in risky decision making" 2023
Expert Talk Series, Modeling in Cognitive Science course, University of Osnabrück

"Expediency and generalization in human reinforcement learning" 2023
Computational Cognitive Neuroscience Lab, UC Berkeley

"Replay as state-abstraction for reinforcement learning" 2023
Max Planck UCL Centre for Computational Psychiatry

"On the normative advantages of basal ganglia opponency in risky decision making" 2020
Verguts Lab, Ghent University

"Computational advantages of dopaminergic states for decision-making" 2020
Brown University Unconference

"Computational advantages of motivational dopamine states for action selection" 2019
New England Research on Decision Making (NERD)

Peer-reviewed conference posters

Jaskir, A., M.J. Frank (2024) "Discovering analogous structure supports transfer in human reinforcement learning". Computational Psychiatry Conference

Jaskir, A., M.J. Frank (2023) “Generalization in reinforcement learning and the role of sleep”. Society for Neuroscience, Washington D.C..

Jaskir, A., M.J. Frank (2023) “Sleep for creative insight in reward learning”. Curiosity, Creativity, and Complexity, Columbia University.

Jaskir, A., M.J. Frank (2022) “Sleep’s role in state-abstraction for sequential reinforcement learning”. Society for Neuroscience.

Jaskir, A., M.J. Frank (2022) “Sleep’s role in analogous transfer for sequential reinforcement learning”. RLDM*.

Gallo, M., A.A. Hamid, **A. Jaskir**, T. Pan, D. Ofray, M.J. Frank, C.I. Moore, K.G. Bath (2022) “Early life adversity slows reinforcement learning and disrupts optimal decision making in adult mice”. International Society for Developmental Psychobiology.

Gallo, M., A.A. Hamid, **A. Jaskir**, T. Pan, D. Ofray, M.J. Frank, C.I. Moore, K.G. Bath (2021) “Early life adversity alters reward learning and decision making mechanisms in mice”. International Society for Developmental Psychobiology.

Gallo, M., A.A. Hamid, **A. Jaskir**, T. Pan, D. Ofray, M.J. Frank, C.I. Moore, K.G. Bath (2021) “Early life adversity alters reward learning and decision making mechanisms in mice”. Society for Neuroscience, Chicago.

Jaskir, A., M.J. Frank (2019) Computational advantages of dopaminergic states for decision making. Motivation and Cognitive Control.

Jaskir, A., M.J. Frank. (2019) Computational advantages of dopaminergic states for decision making. Computational Cognitive Neuroscience (CCN). https://doi.org/10.32470/ccn.2019.1390-0

Jaskir, A., M.J. Frank (2019) The computational benefits of motivational dopamine states in the OpAL model. RLDM*.

Jaskir, A., M.J. Frank (2019) Simulating the benefits of motivational dopamine states. Winter Conference on Brain Research.

Jaskir, A., Y. Niv, (2017) Modeled learning weights predict attention and memory in a multidimensional probabilistic task. RLDM*.

**RLDM - The Multi-disciplinary Conference on Reinforcement Learning and Decision Making*

Ad-hoc reviewing

Neuron, Proceedings of the National Academy of Sciences, Nature Human Behaviour, npj Science of Learning, Nature Neuroscience

Workshops & Tutorials

Carney Brainstorm Program — Brown University, 2024
1-week data analysis workshop on SEEG analysis (decoding, classification, sharp wave ripples detection, time series decomposition) and a 3-week hackathon on a clinical SEEG data set. Program invites students ranging from psychology to computer science and fosters interdisciplinary collaboration.
Topics: Sleep, replay, memory consolidation

Kavli Summer Institute in Cognitive Neuroscience — UC Santa Barbara, 2022
Two-week course that trains attendees in cutting-edge methods and theoretical perspectives, including their translation to mental health challenges
Topics: Motivated Cognition, Attention

Computational Cognitive Modeling of Behavioral & Neural Data — Brown University, 2020-2023
Two-week course on various cognitive modeling approaches, e.g. reinforcement learning, Bayesian models, drift diffusion models

Representing states and spaces — Computational Cognitive Neuroscience (CCN), 2019
Instructors: Timothy Behrens (Oxford), Kim Stachenfeld (DeepMind)

Teaching Experience

SRNDNA Computational Modeling Workshop — University of Pennsylvania, 2024 (upcoming)
Invited Lecturer, Reinforcement Learning
Organizer: Debbie Yee

Computational Cognitive Modeling of Behavioral & Neural Data — Brown University
Co-organizer, Lecturer — 2022 & 2023
Teaching Assistant — 2020 & 2021
Co-Instructor: Andra Geana, Debbie Yee

Modeling in Cognitive Science — University of Osnabrüc, 2023
Guest Lecturer, Expert Talk Series, "On the normative advantages of basal ganglia opponency in risky decision making"
Instructor: Sebastian Musslick

Computational Cognitive Neuroscience — Brown University, 2020/2021/2022
Guest Lecturer, "Temporal Reinforcement Learning"
Instructor: Michael J. Frank

CLPS Inclusive Teaching Workshop — Brown University, 2022
Coordinator, Attendee
In collaboration with Sheridan Teaching center

Sheridan Teaching Certificate Course — Brown University, 2021
Semester course on inclusive teaching

Free Will and the Brain — Summer at Brown, 2021
Teaching Assistant
Instructor: Louis Gularte

Core Concepts in Cognitive Science — Brown University, 2019
Guest Lecturer, "Reinforcement Learning", Teaching Assistant
Instructors: Bill Warren, David Badre

Neuroeconomics: The Science of Decision-Making — Summer at Brown, 2019
Guest Lecturer, "Learning, Modeling, and the Brain"
Instructor: Amrita Lamba

U.S. Fulbright Student Program — Rivne, Ukraine, 2017-2018
English Teaching Assistant

Data Structures and Algorithms — Princeton University, 2015
Peer Tutor

Nambala Primary School — Arusha, Tanzania, 2015
Math and science teacher (volunteer)

Mentorship

Joshua Hewson (2024), Damir Kulzhanov (2023), *Priyanka Solanky (2021 – 2023), Lise Vansteenkiste (2019)

**denotes thesis student*

Leadership

Carney Institute for Brain Science's Computational Cognitive Modeling of Behavioral & Neural Data Workshop
Co-organizer, Lecturer — 2022 & 2023

The Multi-disciplinary Conference on Reinforcement Learning and Decision Making (RLDM) — Providence, RI, 2022
Committee for conference networking events

Structure Learning Reading Group — Carney Institute for Brain Science
Co-founder, co-organizer — 2019-2021

Brain Week Rhode Island — Brown University
Volunteer Outreach Coordinator — 2021

CLPS Departmental Diversity and Inclusion Action Plan (DIAP) — Providence, RI
DIAP Graduate Student Representative — 2020-2021

Department Climate Committee — 2019-2020

Technovation — Rivne, Ukraine
Co-organizer, group mentor — 2017-2018

- Year-long community project paired Technovation coding curriculum with original monthly workshops on empowerment, leadership, gender roles, and team building

Community Engagement

Leadership Alliance — Brown University
Student mentor — 2023

- Leadership Alliance promotes diversity in STEM by supporting students from underrepresented groups in summer research opportunities

College Day at Brown — Brown University
Volunteer — 2023/2024

Leadership Alliance — Brown University
Graduate school fair volunteer — 2022

Brain Week RI — Brown University
Brain Fair volunteer — 2019

Princeton University Student Government's Big Sibs Program — Princeton University
Student mentor — 2015-2017

- Community-based outreach program for disadvantaged middle school students from the greater Princeton area. Program aimed at mentoring, empowering, and improving literacy of students.

Relevant Research Experience

[Re] Better transfer learning with inferred successor maps — **NeurIPS Reproducability Challenge**
Submitted as final project for course "Learning and sequential decision making"
Instructor: Michael Littman | Course Grade: A
2019

Learning to Learn: The Interaction Between Attention and Learning as a Mechanism for Dimensionality Reduction in the Brain — **Undergraduate thesis**, Princeton University, 2017
Advisor: Yael Niv (Princeton Neuroscience Institute and Psychology Department)
Second Reader: Barbara Engelhardt (Princeton Computer Science Department)

- **Outstanding Computer Science Senior Thesis Award**

Computational Memory Lab — **Research Assistant**
Advisors: Luis Piloto (Princeton Neuroscience Institute, DeepMind), Ken Norman (Princeton Neuroscience Institute and Psychology Department)
Princeton University, 2015-2016

- Applications of machine learning for decoding replay for memory/sleep task

Niv Lab — **Research Assistant**
Advisors: Stephanie Chan (Princeton Neuroscience Institute), Yael Niv (Princeton Neuroscience Institute and Psychology Department)
Princeton University, 2014

- Role of hippocampal replay in constructing shortcuts in cognitive maps