Jonathan Skaza

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Education

University of California, Santa Barbara, PhD Student in Dynamical Neuroscience — Present

Advisor: Miguel Eckstein

University of Michigan, M.S. Biostatistics — 2017

Advisor: Brisa Sánchez

Bryant University, B.S. Applied Mathematics/Statistics, Applied Economics, *summa cum laude* 2015

Advisor: Brian Blais

Experience

Cold Spring Harbor Laboratory — Cold Spring Harbor, NY

Computational Science Developer — 2023-2024

Supervisor: Ben Cowley

Computational neuroscience and neuroAI research group led by Ben Cowley. Building connectome-inspired DNNs to understand visual projection neurons (and the computations of visual processing in general) in *Drosophila*. Mentor a talented high school student interested in computational neuroscience.

Panalgo — Boston, MA

Associate Director, Product — 2022-2023

Lead Analyst — 2022

Senior Analyst — 2020-2022

Analyst II — 2018-2020

Panalgo develops software for Real-World Evidence (RWE) studies. The company maps massive healthcare claims and EHR datasets into a data model and provides a web application to drastically simplify and accelerate patient-level analysis. I worked with clients to implement various types of healthcare studies, engineers to enhance the product, machine learning experts to implement new algorithms, product leaders to develop roadmaps, and business analysts to understand user behavior.

University of Michigan — Ann Arbor, MI

Data Scientist — 2017-2018

Conducted research involving longitudinal data analysis, functional data analysis, Bayesian hierarchical modeling, data visualization, and data wrangling. Collaborations with University of Michigan Department of Psychiatry and Drexel University Urban Health Collaborative.

University of Michigan Ann Arbor, MI

Graduate Student Research Assistant 2015-2017

Developed statistical methods and applications in modeling cortisol, a biomarker of stress, as part of a psychoneuroendocrinology study. Member of Biostatistics for Social Impact lab.

Bryant University Smithfield, RI

Undergraduate Research Assistant 2014

Implemented econometric analyses concerning the economic impact of children, the education system, and the defense industry in the state of Rhode Island.

North Carolina State University & Duke University Raleigh, NC

Summer Institute in Biostatistics 2014

Explored the field of biostatistics through lectures, statistical computing labs, and data analysis project. Sponsored by NHLBI and NCATS.

Publications

JS Skaza, E Wong, A Matsliah, BR Cowley (2024). Data-driven deep neural network models of visual processing in Drosophila. *Cognitive Computational Neuroscience*

SE Mayer, JL Abelson, H Briggs, **J Skaza**, C Kirschbaum, T Stalder (2019). How does hair cortisol assessment correspond to saliva measures and to lab-based probes of HPA axis regulatory function?. *Psychoneuroendocrinology*, 107, 50-51

JL Abelson, B Sanchez, X Zhang, I Liberzon, H Briggs, **J Skaza** (2019). Does salivary cortisol reflect key regulatory control aspects HPA axis functioning in healthy humans?. *Psychoneuroendocrinology*, 107, 50

JL Abelson, C Kirschbaum, J Herman, **J Skaza**, B Sanchez (2019). Daily diurnal salivary curves: Are they too noisy to be useful?. *Psychoneuroendocrinology*, 107, 51

J Wang, I Fox, **J Skaza**, N Linck, S Singh, J Wiens (2018). The advantage of doubling: a deep reinforcement learning approach to studying the double team in the NBA. *arXiv preprint arXiv:*, :1803.02940

J Skaza, B Blais (2017). Modeling the infectiousness of Twitter hashtags. *Physica A: Statistical Mechanics and its Applications*, 465, 289-296

L Beaudin, **J Skaza** (2015). Measuring the total impact of demographic and behavioural factors on the risk of obesity accounting for the depression status: a structural model approach using new BMI. *Applied Economics*, 47 (55), 6041-6053

JS Skaza (2015). Mathematical modeling of trending topics on twitter. *Bryant University*

J Skaza (2014). Socioeconomic Determinants of Obesity in the United States. *Empirical Economic Bulletin, An Undergraduate Journal*, 7 (1), 2

J Skaza, B Blais (2013). The relationship between economic growth and environmental degradation: exploring models and questioning the existence of an environmental Kuznets curve. *The Center for Global and Economic Studies at Bryant University Working Paper*

Awards

Sanjay Gupta Family Hackathon Winner   2018

SAS Institute Award (Top Applied Mathematics Undergrad)   2015

Excellence in Economics Award (Top Economics Undergrad)   2015

Honors Program   2011-2015

Undergraduate Research Grant   2013

Certifications

LangChain for LLM Application Development (DeepLearning.AI)   2023

ChatGPT Prompt Engineering for Developers (DeepLearning.AI)   2023

Practical Deep Learning for Coders (fast.ai)   2023

Introduction to SQL (Coursera)   2023

Programming with Google Go Specialization (Coursera)   2022

SAS Certificate in Data Mining (Bryant University & SAS Institute)   2015

Skills

Python (NumPy, Pandas, scikit-learn, Keras, PyTorch), R (tidyverse), Go, Julia, Nim, Jupyter, Git, SQL, MongoDB, LaTeX, Notion, Jira

Interests

NeuroAI, Machine Perception, Computational Neuroscience, Artificial Intelligence

Select Coursework

Philosophy of AI, Visual Perception, Modeling and Optimization of Neural Networks, Statistical Computing, Machine Learning, Bayesian Inference, GLMs, Longitudinal Analysis, Survival Analysis, Probability, Neuroscience, Cognitive Psychology

References

Available upon request

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