

# Jonathan Skaza

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## EDUCATION

### University of California, Santa Barbara

*PhD Student in Computational Neuroscience*

Advisor: Miguel P Eckstein

### University of Michigan

*MSc in Biostatistics*

Advisor: Brisa Sánchez

### Bryant University

*BSc in Applied Mathematics & Statistics, Applied Economics*

Advisor: Brian Blais

## EXPERIENCE

### Graduate Student Researcher

2024–Present

University of California, Santa Barbara

Santa Barbara, CA

The Vision and Image Understanding Laboratory at the University of California, Santa Barbara pursues computational modeling of behavioral, cognitive neuroscience, and physiological data to elucidate the mechanisms and neural substrates mediating perception, attention, and learning. We use the knowledge we acquire, in conjunction with tools from computer science and engineering, to improve human performance in life-critical decisions, aid the development of bio-inspired computer vision systems, and optimize the interactions between intelligent machines and humans.

Website ↗

### Computational Science Developer

2023–2024

Cold Spring Harbor Laboratory

Cold Spring Harbor, NY

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

Website ↗

### Analyst II → Senior Analyst → Lead Analyst → Associate Director, Product

2018–2023

Panalgo

Boston, MA

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.

[Website ↗](#)

### **Data Scientist**

2017–2018

University of Michigan

Ann Arbor, MI

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.

### **Graduate Student Research Assistant**

2015–2017

University of Michigan

Ann Arbor, MI

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.

### **Undergraduate Research Assistant**

2014–2014

Bryant University

Smithfield, RI

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

### **Summer Institute in Biostatistics Participant**

2014–2014

North Carolina State University & Duke University

Raleigh, NC

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

[Website ↗](#)

## **PUBLICATIONS**

Ziqi Wen, Jonathan Skaza, Shravan Murlidaran, William Y Wang, Miguel P Eckstein (2025). "Predicting Reaction Time to Comprehend Scenes with Foveated Scene Understanding Maps." *arXiv preprint arXiv:2505.12660*. [↗](#)

Jonathan S Skaza, Erin Wong, Arie Matsliah, Benjamin R Cowley (2024). "Data-driven deep neural network models of visual processing in *Drosophila*." *Cognitive Computational Neuroscience*. [↗](#)

Stefanie E Mayer, James L Abelson, Hedieh Briggs, Jonathan Skaza, Clemens Kirschbaum, Tobias Stalder (2019). "How does hair cortisol assessment correspond to saliva measures

and to lab-based probes of HPA axis regulatory function?." *Psychoneuroendocrinology*, 107. ↗

James L Abelson, Brisa Sanchez, Xingyu Zhang, Israel Liberzon, Hedieh Briggs, Jonathan Skaza (2019). "Does salivary cortisol reflect key regulatory control aspects HPA axis functioning in healthy humans?." *Psychoneuroendocrinology*, 107. ↗

James L Abelson, Clemens Kirschbaum, James Herman, Jonathan Skaza, Brisa Sanchez (2019). "Daily diurnal salivary curves: Are they too noisy to be useful?." *Psychoneuroendocrinology*, 107. ↗

Jiaxuan Wang, Ian Fox, Jonathan Skaza, Nick Linck, Satinder Singh, Jenna Wiens (2018). "The advantage of doubling: a deep reinforcement learning approach to studying the double team in the NBA." *arXiv preprint arXiv:1803.02940*. ↗

Jonathan Skaza, Brian Blais (2017). "Modeling the infectiousness of Twitter hashtags." *Physica A: Statistical Mechanics and its Applications*, 465. ↗

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. ↗

Jonathan S Skaza (2015). "Mathematical modeling of trending topics on twitter.". ↗

Jonathan Skaza (2014). "Socioeconomic Determinants of Obesity in the United States." *Empirical Economic Bulletin, An Undergraduate Journal*, 7. ↗

Jonathan Skaza, Brian 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*. ↗

## CONFERENCES & TALKS

Shravan Murlidaran, Ziqi Wen, Jonathan Skaza, Miguel P Eckstein (2025). "Scene Understanding Maps: Predicting Most Frequently Fixated Object during Scene Description with Multi-Modal Large Language Models." *Vision Sciences Society*, St. Pete Beach, FL, USA. ↗

Ziqi Wen, Jonathan Skaza, Shravan Murlidaran, William Yang Wang, Miguel P Eckstein (2025). "Foveated Multi-Modal Large Language Model Maps to Predict Time to Understand Scenes." *Vision Sciences Society*, St. Pete Beach, FL, USA. ↗

Jonathan Skaza, Shravan Murlidaran, Apurv Varshney, Ziqi Wen, William Yang Wang, Miguel P Eckstein, Michael Beyeler (2025). "A Computational Virtual Patient Pipeline for Predicting Perceptual Capabilities with Visual Prostheses." *Vision Sciences Society*, St. Pete Beach, FL, USA. ↗ ↗

Jonathan Skaza, Erin Wong, Arie Matsliah, Benjamin R Cowley (2024). "Data-driven deep neural network models of visual processing in Drosophila." *Cognitive Computational Neuroscience*, Boston, MA, USA. ↗

## FUNDING & SUPPORT

Institute for Collaborative Biotechnologies (ICB) ↗

2025

UC Noyce Initiative ↗

2024-2025

## **AWARDS**

Sanjay Gupta Family Hackathon Winner	2018
SAS Institute Award (Top Applied Mathematics Undergraduate)	2015
Excellence in Economics Award (Top Economics Undergraduate)	2015
Honors Program	2011-2015
Undergraduate Research Grant	2013

## **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