

Christopher A. Henry, Ph.D.

e-mail: chenrynyc@gmail.com

[Portfolio Website](#) | [LinkedIn](#) | [GoogleScholar](#)

Computational Neuroscientist and AI / Data Scientist with 20+ years of experience in computational modeling and relating large-scale multidimensional time-series data to classification, predictive outcomes, and behavioral decisions.

Extensive experience in leading scientific teams and projects, experimental design, data curation, developing novel data analyses and pipelines, data visualization, fitting ML and AI models, and scientific communication.

Skills

<i>Programming</i>	Python Matlab PsychToolbox OpenGL LaTeX
<i>AI / ML / Data Analysis</i>	Tensorflow PyTorch Numpy Scikit_Learn Pandas SQL
<i>Graphics</i>	Matplotlib Seaborn Adobe Illustrator Photoshop Tableau
<i>Experiments</i>	Physiology Perception Eye-tracking Cognition Decision-making Quantitative Modeling of Physiology & Behavior
<i>Math</i>	Statistics Linear and Nonlinear Systems Machine Learning Time Series Analysis Dimensionality Reduction Convolutional & Recurrent Neural Networks

Certification

Deep Learning | TensorFlow Developer | Generative Adversarial Networks (*DeepLearning.ai*)
Python for Data Science (*LinkedIn learning*) | Data Science Bootcamp (*Flatiron School*)

Work Experience

Machine Learning & Data Scientist	<i>Univ. of Pittsburgh</i>	2023 – 2024
<ul style="list-style-type: none">Applied factor analysis to identify attentional sources of covariability in neuronal populationsDerived broad theoretical framework for tracking internal state changes from behavior dataPredicted continuous eye trajectories using RNN models fit to motor neuron activity		
Faculty Associate	<i>Albert Einstein College of Medicine, NY</i>	2018 – 2023
<ul style="list-style-type: none">Developed project and led team to determine how vision operates in cluttered environmentsAcquired \$3 million in funding from two grants (NIH and Revson Foundation)Built machine learning pipelines and computational models to link neural data to perception		
Postdoctoral Fellow	<i>Albert Einstein College of Medicine, NY</i>	2013 – 2018
<ul style="list-style-type: none">Awarded 2 year fellowship to study how visual cortex adapts to sensory information (NIH)Collected and analyzed extensive neural (1000s of neurons) and perceptual (millions of trials) data sets across humans and nonhuman primatesMentored 10 postdocs, graduate students, and technicians in experimental and analytical approaches to vision		
Ph.D. in Neuroscience	<i>New York University, NY</i>	2005 – 2013
<ul style="list-style-type: none">Led development, experimentation, and reporting of projects focused on how visual neurons dynamically encode changes in sensory contextDesigned parallel perceptual experiments in humans to probe visual texture perceptionThese efforts directly supported \$2 million in acquired research funding (NIH)		

Research Interests

decision-making | inference and learning | model generalization across contexts | adaptive coding
model interpretability | curriculum learning | robust representations in neural networks

Education

Ph.D. in Computational Neuroscience	New York University	2011
B.A. in English Literature and Writing	Dartmouth College	2000

Honors and Awards

NYU Dean's Dissertation Fellowship
Conference Travel Awards (Society for Neuroscience, Computational & Systems Neuroscience, Vision Sciences Society)

Selected Publications (from 7 co-authored publications | 36 conference presentations)

Henry C.A. and Kohn A. (2022) Feature representation under crowding in V1 and V4 neuronal populations. *Curr Biol* (22) 01697-9.
Henry C.A. and Kohn A. (2020) Spatial contextual effects in primary visual cortex limit feature representation under crowding. *Nat Commun* 11(1): 1687.
Henry C.A., Jazayeri M., Shapley R.M., and Hawken M.J. (2020) Distinct spatiotemporal mechanisms underlie extra-classical receptive field modulation in macaque V1 microcircuits. *eLife* 9: e54264.

Teaching

Sensory & Motor Systems; Honors Neuroscience (New York Univ.) | Computational Neuroscience
Faculty Mentor (Neuromatch Academy) | Scientists Teaching Science (NY Academy of Science)