

MICHELE WINTER, PH.D.

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EDUCATION

University of California, Berkeley, Berkeley, CA

Aug 2018 - May 2024

Ph.D., Vision Science

Selected Courses: Signals and Systems, Neural Computation

Awards: Society for Neuroscience Trainee Professional Development Award, National Eye Institute Early Career Scientist Travel Award, Elsevier/Vision Research Travel Award, NSF GRFP Honorable Mention, 4th Place in UW Neural Data Challenge

Brown University, Providence, RI

Sept 2014 - May 2018

Sc.B., Computational Neuroscience

Honors Thesis: *Comparative Analysis of CNNs and DoG Filters to Model Mouse Visual Cortex*

Awards: QuestBridge Finalist, Champlin Foundations Scholarship, Link/SEW Summer Research Award

TECHNICAL SKILLS

- Programming Languages & Libraries: Python, PyTorch, Keras, Tensorflow, Docker, Scikit-learn, Pandas, MATLAB
- Statistical Methods: Neural networks, dimensionality reduction, regression methods
- Areas of Expertise: Visual neuroscience, machine learning, large-scale systems and compute infrastructure, large-scale data management, scalable GPU compute

RESEARCH EXPERIENCE

Gallant Lab, *Graduate Researcher*, UC Berkeley

Jan 2019 - Present

Advisor: Dr. Jack L. Gallant

Topic: Investigating intermediate visual neuron receptive field properties using a biologically plausible neural network architecture.

Yu Lab, *Rotating Graduate Researcher*, UC Berkeley

Aug 2018 - Dec 2018

Advisor: Dr. Stella Yu

Topic: Data-driven analysis of mid-level perceptual cues for figure-ground segmentation with unsupervised learning.

Serre Lab, *Undergraduate Researcher*, Brown University

Dec 2015 - May 2018

Advisor: Dr. Thomas Serre

Topic: Neural network model prediction performance on mouse calcium imaging data in response to natural stimuli.

Computational Perception & Cognition Lab, *Undergraduate Researcher*, CSAIL/MIT

Summer 2016 & 2017

Advisor: Dr. Aude Oliva

Topic: A large, naturalistic, auditory dataset for investigating semantic representations in cortex with fMRI and MEG.

CONFERENCE PRESENTATIONS

- **Winter, M.**, la Tour, T. D., Eickenberg, M., Oliver, M., & Gallant, J. (2023). The hierarchical convolutional energy model: a biologically plausible model that explains spatial, chromatic, and temporal tuning in V4 neurons. *Society for Neuroscience*.
- **Winter, M.**, la Tour, T. D., Eickenberg, M., Oliver, M., & Gallant, J. (2022). Long-term recordings from area V4 neurons and an accurately-predicting deep convolutional energy model reveal spatial, chromatic and temporal tuning properties under naturalistic conditions. *Journal of Vision*, 22(14), 4363-4363.
- **Winter, M.**, Eickenberg, M., Oliver, M., & Gallant, J. L. (2020). Comparison of generic convolutional networks versus biologically inspired networks as models of V4 neurons. *Journal of Vision*, 20(11), 461-461.

TEACHING EXPERIENCE

Visual Perception Sensitivity, *Graduate Student Instructor (GSI)*, Berkeley, CA

Fall 2018 & 2019

Pre-Collegiate Summer Program in Perception & Vision Science, *GSI*, Berkeley, CA

July - Aug 2019

Computational Vision, *Undergraduate Teaching Assistant*, Providence, RI

Fall 2016