

# Explaining V4 Neurons Pattern Selectivity via Convolutional Neural Network

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## **Abstract**

In this poster, we present our recent model analysis for neurons in V4 area of visual cortex using natural images as stimulus. Recorded activities of 55 neurons from area V4 of two awake macaque monkey were used. We build a computational model based on a convolutional neural network trained on ImageNet dataset to predict the neuron responses and we further examine and interpret their pattern selectivity. Convolutional neural networks - as a successful tool to analyze big data problems - has been recently studied for a vast variety of applications especially in machine learning. Here, it has been shown that they are also successful to increase our understanding of visual cortex and especially V4 cells. This is a joint work with Yuansi Chen, Adam Bloniarz, Jack L. Gallant, and Bin Yu.