

# Representational Dynamics: The Temporal Evolution of Neural Population Coding in Nonhuman Primate Inferior Temporal Cortex

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## SUBMISSION DETAILS

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**Presentation Abstract Summary** The primate visual system can be understood as a hierarchical feedforward system that transforms visual input into meaning via a range of linear and nonlinear transformations. The feedforward framework is very successful; however, it ignores temporal dynamics. Temporal dynamics might be highly relevant for object recognition. Here, we analyze single-unit recordings from monkey high-level visual cortex, i.e. inferior temporal cortex, to examine the temporal dynamics of neural population coding of object images. We show that both within- and between category distinctions arise early (80 ms after stimulus onset). Within-category distinctions can be explained by low-level features computed from the input image, while between-category distinctions cannot, especially at later time points after stimulus onset (> 125 ms). These results suggest that the IT code reflects both visual similarity and category distinctions and that the latter might require some recurrent processing to emerge.

**Paper Upload (PDF)** [CNN2017.pdf](#)

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## Keywords

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