

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Can deep convolutional networks explain the semantic structure that humans see in photographs?

Permalink

<https://escholarship.org/uc/item/9s283743>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 46(0)

Authors

Suresh, Siddharth
Huang, Wei-Chun
Mukherjee, Kushin
et al.

Publication Date

2024

Peer reviewed

Does prediction drive neural alignment in conversation?

Emilia Kerr

Aix-Marseille University, Aix-en-Provence, France

Kristof Strijkers

CNRS & Aix-Marseille University, Aix-en-Provence, France

Benjamin Morillon

Aix-Marseille University, Marseille, France

Abstract

A behavioural and two EEG hyper-scanning experiments are presented which investigate how predictive processing modulates the way interlocutors align behaviourally and at the level of the brain (Hasson, 2012; Pickering & Garrod, 2007). In the experiments interlocutors engaged in dyadic interactions performing a semi-controlled semantic association game and where the predictability of the semantic associations was manipulated. The behavioural results showed that both interlocutors were around 400 ms faster in the predictable versus non-predictable conditions. The results of the two EEG studies aim at demonstrating (1) whether we observe brain-to-brain synchronisation between the interlocutors at the level of word semantics, and (2) whether prediction enhances this synchronisation. To our knowledge, this is the first study to directly demonstrate prediction effects in an interaction.