SUSHRUT THORAT

Contact Information

email: sushrut.thorat94@gmail.com webpage: sushrutthorat.com
github: novelmartis Other info: G-Scholar, Full-CV

Interests

The minimal set of priors to enable an artificial agent to function and learn, e.g., self-supervised learning, lifelong learning, memory encoding and retrieval, and action planning; Bio-inspired AI

Education

Ph.D. in Cognitive Neuroscience *Thesis submitted*
Donders Centre for Cognition, Radboud University, The Netherlands

M.Sc. (with honors) in Cognitive Neuroscience *July, 2017*
Center for Mind/Brain Sciences (CIMeC), University of Trento, Italy

B.Tech. in Engineering Physics *August, 2015*
Department of Physics, Indian Institute of Technology - Bombay (IIT-B), India

Technical Proficiency

Programming languages: Python, MATLAB, Javascript

Machine learning frameworks: TensorFlow, PyTorch, MatConvNet

Experimentation frameworks: PsychToolbox, jsPsych, Pavlovia

Neuro-imaging: fMRI (data acquisition and analysis), EEG (data analysis)

Selected Peer-reviewed Publications

Thorat S, Peelen MV (2022). Body shape as a visual feature: evidence from spatially-global attentional modulation in human visual cortex. *NeuroImage*: 119207.

Thorat S*, Aldegheri G*, Kietzmann TC (2021). Category-orthogonal object features guide information processing in recurrent neural networks trained for object categorization. *Shared Visual Representations in Human & Machine Intelligence Workshop @ NeurIPS*. *equal contribution.

Thorat S, Proklova D, Peelen MV (2019). The nature of the animacy organization in human ventral temporal cortex. *eLife* 8: e47142.

Thorat S, van Gerven MAJ, Peelen MV (2018). The functional role of cue-driven feature-based feedback in object recognition. *Conference on Cognitive Computational Neuroscience (CCN)*: 1-4.

Thorat S, Choudhari V (2016). Implementing a Reverse Dictionary, based on word definitions, using a Node-Graph Architecture. *Proceedings of COLING 2016, the 26th International Conference on Computational Linguistics: Technical Papers*: 2797-2806.

Thorat S, Rajendran B (2015). Arithmetic computing via rate coding in neural circuits with spike-triggered adaptive synapses. *International Joint Conference on Neural Networks (IJCNN)*: 1-8.

Notable Achievements

- Voted **best poster/short-pitch**, among **15 posters**, in the 'Perception, Action, and Control' theme at the annual Donders Poster Session (2020)
- Recipient of the **Abstract Award**, awarded to **5 of the 57** accepted abstracts at the Rovereto Workshop on Concepts, Actions and Objects (2017).
- Ranked **721 among 450,000** students in the Joint Entrance Examination **(JEE, 2011)** conducted towards admission to the Indian Institute of Technology (IIT).

Reviewing work

Memory & Cognition'22, eLife'20, Monk Prayogshala'19, Conference on Cognitive Computational Neuroscience (CCN)'19

Supervision Experience

Supervised 7 undergraduates and 1 masters student during their thesis projects.