



BCL 2023

Edition IV



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9 Jan | 10:00 - 11:00

Deep Neural Networks for Part-based Object and Scene Representations

Abstract: Aristotle is said to have famously remarked 'The whole is greater than the sum of the parts'. Philosophy aside, identifying semantically meaningful parts of an object can enable a richer understanding of visual content. In this talk, I will present deep neural networks for part-based understanding of objects and scene representations. In its original form, the task setting naturally induces a combinatorial explosion of deep network outputs. As part of the talk, I will show that the inductive bias of the task can be exploited to craft deep network architectures which mitigate the combinatorial issue. The capabilities of the resulting deep networks suggest a potential for applications in cognitive studies, graphics and robotics.

Brief Bio: Dr. Ravi Kiran Sarvadevabhatla is an Assistant Professor affiliated with Centre for Visual Information Technology (CVIT) at IIIT Hyderabad since 2018. He is also the Lead for Mobility-related Applied Projects and Academic Programs at IHub-Data. Advised by Prof. Venkatesh Babu, Dr. Ravi Kiran obtained his Ph.D. from Indian Institute of Science (IISc) in 2018. His Ph.D. thesis is the recipient of IUPRAI Best Thesis Award and Sir Vital R Chandavarkar Memorial Gold Medal. Before joining IISc in 2014, he worked in US-based R&D companies during the period 2008-2013. He obtained his MS in Computer Science from University of Washington, Seattle, USA in 2008. Dr. Ravi Kiran has broad-ranging research interests and likes to work on inter-disciplinary problems involving multi-modal multimedia data (images, videos, text, audio, eye-tracking data) and disciplines (Graphics, Robotics, Human-Computer Interaction). For additional details, visit <https://ravika.github.io/>