Capita Selecta AI - Topic 3: Application study

Initial idea: Visual Question Answering

Jorrit Willaert *(r0652971)*

DeepProbLog offers the ability to integrate probabilistic knowledge with deep neural networks. This way, the strength of the neural network (system 1: typical subconscious tasks such as visual recognition, the processing of languages, ...) is complemented with the strength of rule-based mechanisms (system 2: slow, sequential thinking such as the derivation of a proof). I propose an application that requires the integration of both systems.

The Sort-of-CLEVR dataset is a simplified version of the CLEVR dataset [1]. This simplified dataset is composed of 10 000 images with per image 20 accompanied questions. An image consists of spread out objects, with randomly chosen shapes and colors. The questions are divided in

References

[1] Justin Johnson, Li Fei-Fei, Bharath Hariharan, C. Lawrence Zitnick, Laurens Van Der Maaten, and Ross Girshick. CLEVR: A diagnostic dataset for compositional language and elementary visual reasoning. *Proceedings - 30th IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2017*, 2017-Janua:1988–1997, 2017.