PROJECT PROPOSAL: VISUALIZING CONVOLUTIONAL NEURAL NETWORKS USING DECONVOLUTION

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1 INTRODUCTION

Convolution neural networks have shown groundbreaking results in multiple computer vision tasks. But CNNs still widely remain a black box model. Here we attempt at building a framework to visualise a CNN using deconvolution.

2 LITRATURE REVIEW

Multiple techniques were suggested by Erhan et al. (2009) for visualisation of CNNs based upon activations of individual units. Simonyan et al. (2013) established connection between gradient based methods of CNN visualisation and deconvolution networks. Zeiler & Fergus (2014) introduced a way to visualise CNNs using deconvolution nets.

3 DELIVERABLES

The framework would enable the user to visualize individual filter of a CNN on user input on a graphical interface. We would use Inception v3 checkpoint as our default network. The front-end UI would be built in JavaScript and HTML, while the backend would be running on python using tensorflow.

REFERENCES

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