Dissertação de Mestrado em Engenharia Informática (2019/2020)

Title: It is feasible the Knowledge Transfer in Deep Neural Networks?

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Summary

With the advent of deep neural networks, there is a growing interest in transferring the knowledge from a large and complex model to a smaller and faster one [1]. This principle is called as Knowledge Transfer, in which a transfer set of labelled data that trains the receiver model. This domain adaptation aims to uncover the common latent factors across source and receiver domains, and to adopt them to reduce both the marginal and conditional mismatch in terms of the feature space between domains. However, this solution is limited when used to transfer knowledge between layers of networks with different number of hidden units. Therefore, a benchmark including different models and techniques (e.g. dimensionality reduction, feature selection, …) is timely and may to provide a greater academic understanding on this topic.

Tasks
• T1 – Technological background study;
• T2 – Review the State-of-the-art;
• T3 – Requirements Analysis;
• T4 – Design and construction, including integration;
• T5 – Testing and evaluation;
• T6 – The writing of the dissertation.

Expected result
In this research work the following deliverables are expected:
• A validated computational tool;
• A publication describing the method and the validation results.

Timeline

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