MSc thesis defense presentation

Pelagia Teloni defends her MSc thesis.

Date:	Monday, 26 Jun 2017
Time:	13:00
Location:	NTUA, Α■θουσες Πολυμ■σων-κτ■ριο Βιβλιοθ■κης
Thesis title:	Transfer k-means
Committee:	• Dimitris Fotakis • Aristeidis T. Pagourtzis • Efstathios Zachos

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Thesis abstract

Supervised and unsupervised learning are two fundamental learning schemes whose difference lies in the presence and absence of a supervisor (i.e. entity which provides examples) respectively. On the other hand, transfer learning aims at improving the learning of a task by using auxiliary knowledge. The goal of this thesis was to investigate how the two fundamental paradigms, supervised and unsupervised learning, can collaborate in the setting of transfer learning. As a result, we developed transfer k-means, a transfer learning variant of the popular k-means heuristic.

The proposed method enhances the unsupervised nature of k-means, using supervision from a different but related context as a seeding technique, in order to improve the heuristic's performance towards more meaningful results. We provide approximation guarantees based on the nature of the input and we experimentally validate the benefits of the proposed method using documents as a real-world example.