

## Project proposal template – Faculty studentships Summer 2014

<i>Project title</i>	Object and Action Recognition Assisted by Computational Linguistics	<i>Director of Study</i>	Dimitrios Makris
<i>Second Supervisor</i>	Gordon Hunter	<i>School</i>	Computing and Infor <span style="float: right;">▼</span>
<i>Other members of supervisory team</i>	Amr Ahmed (University of Lincoln)	<i>Any requirements from applicant (eg degree in specific subject area)</i>	Degree in Computer Science, Engineering, Mathematics or <span style="float: right;">▲ ☰ ▼</span>

**Project summary  
(max 1,000 characters)**

In the last few years, the proliferation of digital cameras led to an explosive growth of visual content stored in private and public databases. The current approach of indexing and retrieving images and videos is currently tackled by search engines (Google, Yahoo, Bing) that are based on accompanying text provided by users. However, annotation for a significant amount of visual content is unavailable or incomplete.

The aim of this project is to investigate how computer vision methods such as object and action recognition may be assisted by computational linguistic models, such as WordNet. The main challenge of object and action recognition is the scalability of methods from dealing with a dozen of categories (e.g. PASCAL VOC) to thousands of concepts (e.g. ImageNet ILSVRC). This project is expected to contribute to the application of automated visual content annotation and more widely to bridging the semantic gap between computational approaches of vision and language.