

## Project proposal template – Faculty studentships Summer 2014

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<i>Project title</i>	<input style="width: 95%;" type="text" value="Extracting and Interpreting Context-aware Behaviours in Constrained Environments"/>	<i>Director of Study</i>	<input style="width: 95%;" type="text" value="Prof Tim Ellis"/>
<i>Second Supervisor</i>	<input style="width: 95%;" type="text" value="Dr Dimitrios Makris"/>	<i>School</i>	<input style="width: 95%;" type="text" value="Computing and Infor"/>
<i>Other members of supervisory team</i>	<input style="width: 95%;" type="text" value="Prof Jesus Herrero, Applied Artificial Intelligence Group at Universidad Carlos"/>	<i>Any requirements from applicant (eg degree in specific subject area)</i>	<input style="width: 95%;" type="text" value="Computer Science, mathematics"/>
<b>Project summary (max 1,000 characters)</b>			
<p>Monitoring closed-circuit video (CCTV) systems that are widely deployed in both public and private spaces is typically manual, with camera views presented to human operators to observe and detect ‘interesting events and actions’. Operators also bring a depth of knowledge and understanding to the interpretation of how individuals behave and interact with their environment.</p> <p>The aim of this project is to analyse video from CCTV cameras in order to interpret the behaviours and actions of individuals and small groups, and to understand them in the context of the scene (e.g. a shopping mall, a bus stop, car park). One objective will be to learn how the environment is ‘used’ by individuals and to build semantically-rich descriptions of co-located actions and behaviours. A second objective is to build formal symbolic models and a common vocabulary to describe and communicate scene data whilst providing support for logic-based reasoning. Such models need to reason with uncertain information, and hence may incorporate probabilistic and fuzzy capabilities.</p>			