

## Network Action Proposal

Title:	Visit of Pau Baiget to the Active Vision Laboratory, University of Oxford.
Membership number(s)	149
Member name(s)	Pau Baiget
Member institute/company name(s)	Universitat Autònoma de Barcelona
Goals of the action	<p>To enable a 2-month research visit of Pau Baiget (Computer Vision Center – Universitat Autònoma de Barcelona) to the Active Vision Laboratory, University of Oxford, to work with the group of Prof. Ian Reid. The period of visit would serve to study the application of trajectory prediction to establish the pan, tilt and zoom parameters of active cameras in a cognitive vision system.</p> <p>Human behaviour analysis in image sequences is confronted using three levels of detail: trajectory, body and face. These quantitative data are transformed into qualitative concepts in order to detect and interpret human behaviour patterns. Behaviour interpretation is done in a bottom—up manner: first discrimination is done by trajectory analysis. If anomalous or interesting human behaviour is detected, the system may require focusing on a single target. Therefore, using active cameras is required to capture body actions and face expressions.</p> <p>Since the adjustment of the PTZ parameters of an active camera spends a non—trivial amount of time, some trajectory prediction must be a—priori done in order to locate the future target body or face position in the image plane. This will implement behaviour interpretation in a top-down manner.</p> <p>The aim of the action is to use a trajectory clustering algorithm developed at the CVC by Pau Baiget, which extracts the “common” human paths in a given scenario, and integrate it in a active—camera based tracking system developed in the Active Vision Laboratory, University of Oxford to solve the problem described above.</p>
Principal activity to which it contributes	<ul style="list-style-type: none"> <li>○ Community Outreach</li> <li>○ Scientific Outlook</li> <li>○ Education &amp; Training</li> </ul> <p>Scientific Outlook Education &amp; Training</p>
Concrete outcomes of the action (at least one of which should be material suitable for publication on the euCognition website)	<p>At least one state-of-the-art-survey/position paper on automatic human behaviour analysis for cognitive vision systems, to be published in the euCognition website.</p> <p>An update of the Cognition Briefing on human behaviour interpretation based on trajectory analysis already published in the euCognition website and another Briefing on intelligent active camera configuration using trajectory clustering.</p> <p>Furthermore, the work described in the Goal of the Action section will be submitted to a journal publication.</p>

Effort in person-days that will be charged to the Network Action (if any)	---
Expected start and duration in months	30 <sup>th</sup> October – 20 <sup>th</sup> December
<p>The requested funding, under the following headings:</p> <ul style="list-style-type: none"> <li>○ Travel Costs</li> <li>○ Other Costs (check with the Network Coordinator if you aren't sure about eligibility of these costs)</li> <li>○ Labour Costs (identify the number of person-days and the rate per day).</li> </ul>	<p>Other costs:  - 1800€ support for accommodation and subsistence during visit in Oxford (900€ per month per 2 months)</p>
<p>Please identify any other sources of funding that contribute to this Action (actions to support events such as workshop and conferences should include an outline budget identifying the total cost)</p>	<p>The European HERMES Project, (<a href="http://www.hermes-project.eu">www.hermes-project.eu</a>), will provide funding for Pau Baiget's participation to a conference to present joint work as well as travel expenses to and from Oxford. Since the cost of living in Oxford is very expensive, the HERMES Project will also provide supplementary co-funding of approx. 500 € for accommodation and subsistence.</p>