INESCTEC

Centre for Telecommunication and Multimedia

Efficient video-based motion estimation in autonomous vehicles

Context

Autonomous vehicles are here and technology that is applied in this scenario is quickly evolving. Nevertheless, due to mobility and energy requirements, there are many requirements regarding the computational of the software and its energy efficiency. This proposal is framed in the context of activity classification of passenger using visual information and is intended to extract motion information from compressed video streams while minimizing the effect of turbulence due to the movement of the vehicle.

Goals

The following goals are envisioned for this internship:

1. *Definition of scenarios and acquisition of in-vehicle streams*
2. *Identification and test of tools to extract motion information from the streams*
3. *Definition of a strategy to minimize the effect of the vehicle's motion*
4. *Preparation of a brief report on the work carried out in PPT format*

Work plan

To achieve the described goals, the following workplan is proposed:

1. *Preparation for stream acquisition (28-30/06)*
2. *Stream acquisition and data preparation (1-9/07)*
3. *Test of motion information extraction tools (12-14/07)*
4. *Implementation and test of a strategy for noise filtering (14-21/07)*
5. *Test and analysis of results (21-23/07)*
6. *Preparation of the report in PPT format (26-30/07)*

Advisor(s)

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Observations

1. Selection of the trainee is subject to an interview
2. Possibility for continuing the work as a master's project dissertation

References