ipal
Image & Pervasive Access Lab

Master Internship 2015

Video based Context Awareness for Ambient Assistive Livings

Supervisors

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Presentation of the project

Improving the quality of life for the elderly is at the center of Ambient Assisted Living (AAL). AAL technology endeavors to assist the elderly with cognitive decline by offering the ability to carry out routine tasks independently. Such technology uses different sensors, e.g., vision camera, infrared detector, accelerometer, etc. to monitor and react to the contextual needs of the elderly. With a video camera integrating various sensors, the visual environment can be captured, and meanwhile other data modality such as the walking speed can be captured by the embedded sensors. These sensor data coupled with the captured videos can be fused to derive useful contextual information that is helpful to the elderly to adapt their actions for a safe and healthy living outdoors.

Expected deliverables

The intern candidate will apply advanced computer vision and machine learning technology for automatic discovery of visual contextual information through a wearable camera, targeting ambient outdoors assisted living for the elderly. Typical contextual information such as traffic signs, traffic lights, potholes on the road surface, human falls, etc., will be investigated. Advanced traffic sign and vehicle detection techniques have been developed and the candidate is expected to test and further improve them.

Keywords

Ambient Assisted Living, Computer Vision, Visual Context Awareness.

Applicant profile

- Engineer Student (last year of studies).
- Knowledge/experience in image processing and computer vision
- Strong motivation towards this challenging project.
- Availability for 5 to 6 months starting in the first semester of 2015.

Gratification: About 800€ net per month