Application examples: First Person Vision (FPV) and Wearable Devices

Prof. C. Regazzoni
Data Fusion and Bayesian Interaction Modeling for Cognitive Ambient Intelligence
FPV and Wearable Devices

Application of the cognitive paradigm for situation assessment

ANALYSIS  DECISION

SENSING  ACTION

Eso-endo sensor
Empathic interactions

An empathic link (emotional + physical) is established between the person and an integral device.
Learning patterns: body parts interactions
Training a set of AMs

Event definition
Searching for stored patterns

Events Observation

AM1

AM2

AMn
Augmented reality for everyday tasks

Augmenting perception through context information

• The **best matching memory** is selected from the set of trained memories

• **Context information** is therefore retrieved, based on the task/action described by the memory

• Information and hints (predictions) on the performed action can be displayed
Augmented object recognition

Augmenting object recognition through context information

• The best matching memory is selected from the set of trained memories

• Context information is therefore retrieved, based on the task/action described by the memory

• Object recognition can be augmented by such contextual information (objects related to tasks)
Hand detection

Sequential Classifier
Future research

Divide a video in hands and no hands

Which activities involve the use of hands?