The eMedia Research Lab investigates, develops and implements novel techniques to enhance the human condition with embodied media. Our systems contain sensors that capture input from a human user or information from the environment, algorithms that analyse these data, and intelligent systems with actuators that generate meaningful output. Central to our research questions is how humans will perceive this output and how they respond to it. Often we implement fully interactive systems that are fun and engaging, and at the same time serve a serious purpose.

Applications are found in the domain of health care, learning and entertainment.

**ES&S**

The software branch of ES&S is active in the domain of loosely coupled and flexible software services in an interconnected world (web based, mobile apps, cloud computing, ...) and aims at increasing software development productivity. With this purpose it promotes the paradigm of functional programming by and develops guidelines, tools and language extensions on how to do this effectively in the aforementioned domains.

**MSEC**

MSEC is active in the domain of mobile technologies and secure software. Research focuses on design, development and analysis of security demanding applications:

- Design & development of applications with advanced security and privacy requirements
- Security and privacy analysis of advanced electronic services & systems

**ReMI - Embedded Programming**

**Software coding**

Modern systems need reliable software in terms of detection, recovery and resilient behavior. Key topics are validation techniques (in virtual harsh environments through error injection), functional safety (ISO 26262), model-based development, embedded software.

**Sensors, sensor-networks and sensor-fusion**

In the light of IoT and industry 4.0 data is central. Sensor hardware, sensor energy efficiency, communication, scalability, swarm sensors, embedded computing, distributed and heterogeneous data.
**CODeS - Operational Research**

CODeS focuses on modelling and algorithm development for industrial and societal optimisation problems.

CODeS’ research is often driven by demand. Challenging optimisation problems originating from industry, health care and logistics are addressed. Key research areas include scheduling, timetabling, routing, cutting and packing.

**Eavise - Artificial Intelligence**

Eavise is a multidisciplinary research group focusing on applications of advanced computer vision and artificial intelligence. Eavise offers specific Artificial intelligence expertise in knowledge representation and probabilistic logic learning.

**Advise - Artificial Intelligence**

Advise focuses on automated learning and on big data challenges, where large amounts of complex data need to be analysed in an efficient manner. The technology is applicable in many domains, including home care monitoring.

**Contact**

Department of Computer Science  
Technology Cluster Computer Science Technology  
Celestijnenlaan 200A  
3001 LEUVEN, Belgium  
tc-cs@kuleuven.be  
www.fet.kuleuven.be/tc-cs

The research groups of the Technology Cluster Computer Science are active on the campuses in Bruges, Ghent, De Nayer Sint-Katelijne-Waver, Leuven, Geel and Diepenbeek.

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