UNIVERSITÉ SAVOIE MONT BLANC

LISTIC

Laboratory of Computer Science, Systems, Processing of Information and Knowledge

EA 3703 - USMB

Faculty: Polytech Annecy-Chambéry
PhD school: Science and Engineering of Systems, of Environment and of Organisation (SISEO)

FIELDS OF TRANSVERSAL SKILLS

Technologies: Mechatronics, Energy conservation-Civil Engineering, Digital technologies ■ Fundamental Science, Earth sciences and Environment ■ Business, Corporate Governance, Responsibility ■ Behavioural Sciences, Images, Cultures, Societies ■ Mountain studies, Tourism, Sport, Heath

KEY WORDS

Information fusion ■ Learning ■ Uncertainty theories ■ Decision support ■ Signal & Image Processing ■ Remote sensing ■ Artificial Intelligence ■ Big Data ■ Knowledge modelisation ■ Computer networks ■ Distributed systems ■ Internet & Network sciences ■ Classification and Prediction ■ Software engineering

SECTORS

Earth observation ■ Multimedia ■ Manufacturing systems ■ Intelligent instrumentation ■ Information and communication technologies ■ Internet and Internet of Things ■ Buildings and energy performance ■ Robotics for Services

Created in 2003, the LISTIC lab brings together expertise in computer and data processing around the problem of information fusion.
At the crossroads between theory and applications, information fusion consists in an information processing chain that begins from sensors and models and ends in its use for analyzing and controlling real systems.

RESEARCH THEMES

Research activities at LISTIC are declined into 3 main axes:

■ Knowledge, Images and Remote Sensing

- From data to information (signal and image processing methodologies, more specifically on radar images, video and scene analysis, data mining and knowledge extraction, machine learning)
- From concepts to knowledge (inference and knowledge, ontology, formal semantic and terminology)

■ Combinaison et Décision (CoDe)

- Tools for imperfect information representation (Intervals, fuzzy subsets, probabilities, possibilities, belief functions)
- Heterogeneous information aggregation and fusion for decision support in dynamical uncertain environments (manufacturing systems and industrial performance and learning)

■ Distributed and network systems

- Large scale data management
- Dynamic software systems, services and cloud computing
- Internet & social network sciences
- Many-core architectures for high speed packet processing (routing, security)

KEY DATA*

40 researchers and professors
3 administrative and technical staff
20 PhD students
* Academic year 2017-2018

SPECIFIC EQUIPMENT AND EXPERTISE

- « Many-core » packet processing platform and GPU
- Image processing library
- On-site instrumentation: radar corner reflectors and automatic cameras
- Internet of Things platform

PHD STUDENT SKILLS

- Information processing (data, signal, image, video)
- Software development in industrial and business environments
- Analysis and mining of networked big data
- Machine Learning
- Architecture of networked systems
- Industrial engineering
- Knowledge representation and reasoning

NETWORKS / PARTNERSHIPS

Academic cooperations

- French research groups : ISIS, MACS, GPL, MaDICS
- Télécom ParicTech
- CentraleSupelec
- ISM, University of Bordeaux
- University of Kagawa (Japan)
- University POLITEHNICA of Bucharest (Romania)
- ICT-CAS, Institute of Computing Technology – Chinese Academy of Science, University of Liaocheng (China)
- University of Sfax (Tunisia)
- FRESBE Federation of Université Savoie Mont Blanc

Institutional cooperations

Thésame ■ Savoie Assembly ■ Auvergne-Rhône-Alpes Region ■ CNES ■ ISO-AFNOR

Industrial cooperations

Total ■ ENGIE ■ Pfeiffer ■ Somfy

INTERNATIONAL RELATIONS

- European projects (EINS, ONTOREVERSE, ATHENA+, EL MUNDO)
- Host well-known foreign colleagues
- Joint PhD students (China, Portugal, Romania, Tunisia)

LISTIC

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La Région Auvergne-Rhône-Alpes

MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR, DE LA RECHERCHE ET DE L'INNOVATION

CONSEIL SAVOIE MONT BLANC