

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, Health

KEY WORDS

Information fusion • Software engineering • Distributed systems • Computer networks • Internet & Network sciences • Uncertainty theories • Signal & Image Processing • Information and knowledge modelling and extraction • Classification and Prediction • Decision support

SECTORS

Remote sensing and earth observation • Multimedia • Manufacturing systems • Service oriented robotics • Intelligent instrumentation • Information and communication technologies • Internet • Buildings and energy performance

PRESENTATION

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 of an information processing chain that begins from sensors and models, to use in the analysis and control of real systems.

RESEARCH THEMES

Research activities at LISTIC are declined into 3 main axes:

• Knowledge, Images and Remote Sensing

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

• Combination and Decision (CoDe)

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

• Distributed and network systems

- Many-core architectures for high speed packet processing (routing, security)
- Software systems quality of services
- Dynamic software systems and cloud computing
- Internet & network sciences

KEY DATA*

- **40** researchers and professors
- **5** administrative and technical staff
- **20** PhD students

* Academic year 2014-2015

SPECIFIC EQUIPMENT AND EXPERTISE

- Multi-sensor fusion platform
- « Many-core » packet processing platform and GPU
- Service robotics platform (NAO, RoboKind)
- Image processing library

PhD STUDENTS SKILLS

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

NETWORKS / PARTNERSHIPS

Academic cooperations

- University of Kagawa (Japan)
- University POLITEHNICA of Bucharest (Romania)
- Federal University of Rio de Janeiro (Brazil)
- ICT-CAS, Institute of Computing Technology – Chinese Academy of Science (China)
- Télécom ParicTec
- Centrale Supélec
- FRESBE Federation of Université Savoie Mont Blanc
- French research groups : ISIS, MACS, GPL, MaDICS

Institutional cooperations

- Thésame • Savoie Assembly • Rhône-Alpes Region (ARC 6) • CNES • ISO-AFNOR

Industrial cooperations

- Adixen • Orange Lab • Total • Valéo • NTN-SNT • GdF SUEZ

INTERNATIONAL RELATIONS

- European projects (EINS, ONTOREVERSE, ATHENA+, EL MUNDO)
- Host well-known foreign colleagues (e.g: Muriel Médard MIT)
- Joint PhD students (Roumanie, China, Portugal, Morocco)