# LISTIC

### **Computer Science, Systems, Information and Knowledge Processing Laboratory**

# Research Unit - USMB

Affiliated to: Polytech Annecy - Chambery engineering school PhD School: Sciences, Ingénierie, Environnement (SIE)

Created in 2003, LISTIC brings together expertise in machine learning and information fusion as well as networks and systems. Its work focuses on the modelling and development of theories, algorithms and systems for extracting and managing knowledge. He is developing data processing and management methods in the field of Artificial Intelligence (AI), with applications including Earth observation and the analysis of human behaviour in different organisations and systems (companies, habitats, mountains, etc.).

## **Research themes**

#### Learning, Fusion and Remote Sensing

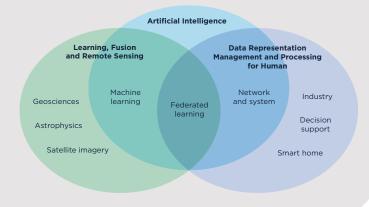
Methodological work in machine learning, signal processing and fusion of uncertain data.

Application to the analysis of remote sensing data for environmental monitoring.

#### Data Representation, Management and **Processing for Human**

Methodological work on distributed systems and decision support.

Application to the digital transformation of companies, skills management, risk assessment and federated learning.



## **KEY DATA**\*

40 researchers and professors 3 administrative and technical staff

**30** PhD students

6 emeritus





## **Tools and equipment**

- > CPU and GPU computing platforms
- > Image processing libraries
- > Field instrumentation: radar corner reflectors and automatic cameras
- > Internet of Things platform

## **Expertise**

- > Deep learning, statistical learning, federated leaning
- > Data mining
- > Information processing: wavelets, differential geometry
- > Uncertainty theories: probabilities, possibilities and evidence
- > Distributed systems and software development
- > Analysis of large volumes of data
- > Architecture of networked computer systems
- > Knowledge representation and reasoning
- > Industrial engineering
- > Optical and radar satellite image analysis

## Scientific outreach

#### Academic collaboration

- Research Clusters ISIS, MACS. > ICT-CAS, Institute of GPL, MaDICS
- > LIRIS/INSA Lyon
- > L2S/CentraleSupelec
- > ISM, Bordeaux University
- > GIPSA-lab Grenoble
- > LIP/ENS Lyon >
- Aalto University (Finland) RIADI, ENSI (Tunisia)
- Institutional collaboration
- > Departmental councils of Savoie and Haute Savoie
- > Auvergne-Rhône-Alpes
- region > CNES

#### Industrial partnerships

- > Total > Somfy
  - > Pfeiffer Engie
- iXblue
- > Héliocity > PRISMO

> > Celeste

# International relations

European projects: ATHENA+, Intereg CIME Joint PhD students: China, Portugal, Romania, Tunisia







Twitter



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Computing Technology,

Chinese Academy of Science (China)

> Liaocheng University

(Chine)

> ONFRA

> CEREMA

> BRGM

> Géolithe

Météo-France

> ISO-AFNOR