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Discover the applied research of five groups of the **Xarxa RDI-IA!**

i2cat^R

Karla Trejo, PhD – Head of Innovation
Distributed Artificial Intelligence



Distributed Artificial Intelligence

The objective of the Distributed Artificial Intelligence (DAI) Area is to promote the application of Big Data and Artificial Intelligence (AI) in the development of innovative projects, while working in the following three research lines:

Trustworthy AI (TAI)

- Machine Learning
- Prediction, optimization and explainable systems
- Responsible AI systems

Multimodal AI Perception (MAIP)

- Deep Learning
- AI Applied to audio, video and volumetric data
- Audio and video comprehension, 3D reconstructions

Distributed Data Architectures (DDA)

- Combines AI with distributed data architectures of different types
- European Data Spaces reference models

New line dedicated exclusively to innovation projects



Speech Recognition projects

simon

- Audio classification
 - Edge audio events classification for a home assistant.
 - Based on Google Nest and Alexa capabilities.
 - Capable of robustly classifying sounds such as running water, breaking glass and child crying.
- Automatic KWS database creation
 - Word mining in speech datasets (Spanish and Catalan).
 - Keyword dataset creation for an edge command recognition model.
 - With and without naturality improvements.
- Strategic agreement to collaborate in projects related to Ambient Intelligence: Laboratory at i2CAT.





Cybersecurity & Explainable AI projects

DetectUEBA

- Multi-modal threat detection capabilities with the power of state-of-the-art machine learning methods.
- Training with cybersecurity expert knowledge.
- Efficient AI pipelines and feedback from SOC operators using human-in-the-loop approach.
- Performs log ingestion, analysis, classification and correlation to threats.
- Qualifies the behaviour of a threat through attack simulations and real-time validations.
- In conversations with private company to apply to market.



PALANTIR

Thank you!

Gran Capità, 2-4
Nexus I Building, 2nd Floor
08034 Barcelona
Tel. (+34) 93 553 25 10

[X/Twitter](#) | [Linkedin](#) | [YouTube](#)

