UNIVERSITÀ DEGLI STUDI FIRENZE

# Future of VL Research and Sentient Systems

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## Paolo Nesi statement: *Sentient Multimedia Systems*

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# New trends

- Autonomous: vehicles, drivers in high speed trains, …

- Personal assistants, answering system, …

- Smart: Cities, Cloud, learning, ….

- Self: Awareness, Expressive

- Resilient Solutions,…

- Decision support systems, ..

Always more frequently used to model so called:

- cyber-physical and/or sociotechnical systems

# What they are ?

- In most cases, they need to:
  - Model knowledge, data, relationships…
  - **Model human surrogate**: behavior, profile, agent
  - **Enforcing reasoning capabilities via**: machine learning, semantic computing, deductive system, mathematics, statistics, heurists, probabilistic … models..
  - **Evolving models**: inferring, cumulating knowledge, deciding, learning, producing new knowledge
- Are they becoming more intelligent ??
  - Autonomously capable to react in a good manner to unexpected situations, resilient and sentient ??

# When it may happen ?

- There is a common believe that we would need more than 10 years to model the complexity of the brain ?
  - Why ? .. . the presently available and largely diffused digital systems are already faster and better than the human brains in performing many tasks!
    - We learn how to make them faster and with larger storage
    - We still have to learn/understand to make them smart and sentient

- The generational jump to sentient would be performed on the basis of

  - computational and storage capabilities ? Or

  - more probably on the arrival of new models and paradigms for making computer system smarter and sentient.