



Embedded at Verona... for you

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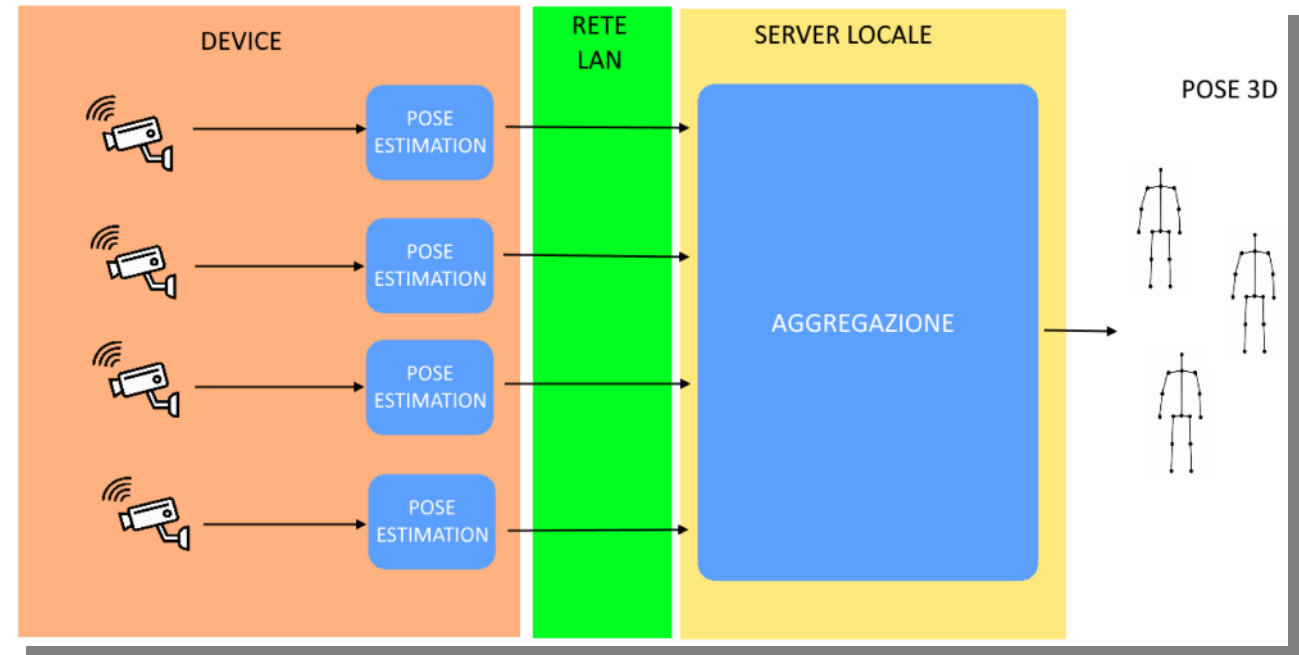
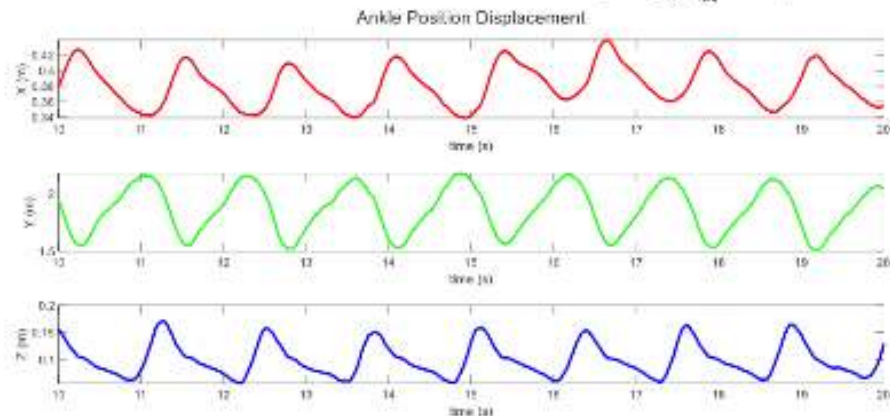
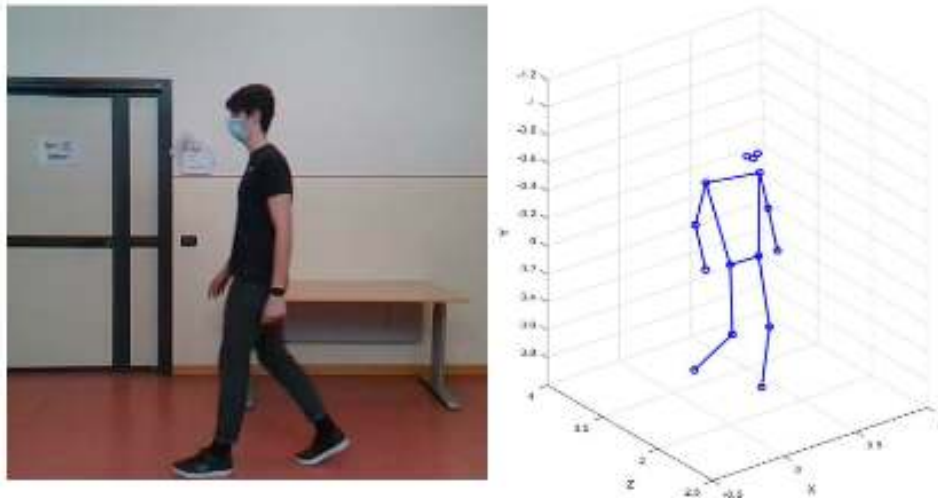


Luca Geretti

Human Pose Estimation for rehabilitation



Nicola Bombieri



- advanced programming techniques for **parallel architectures** (e.g., GPU)
- optimization of deep inference applications in the **compute continuum**



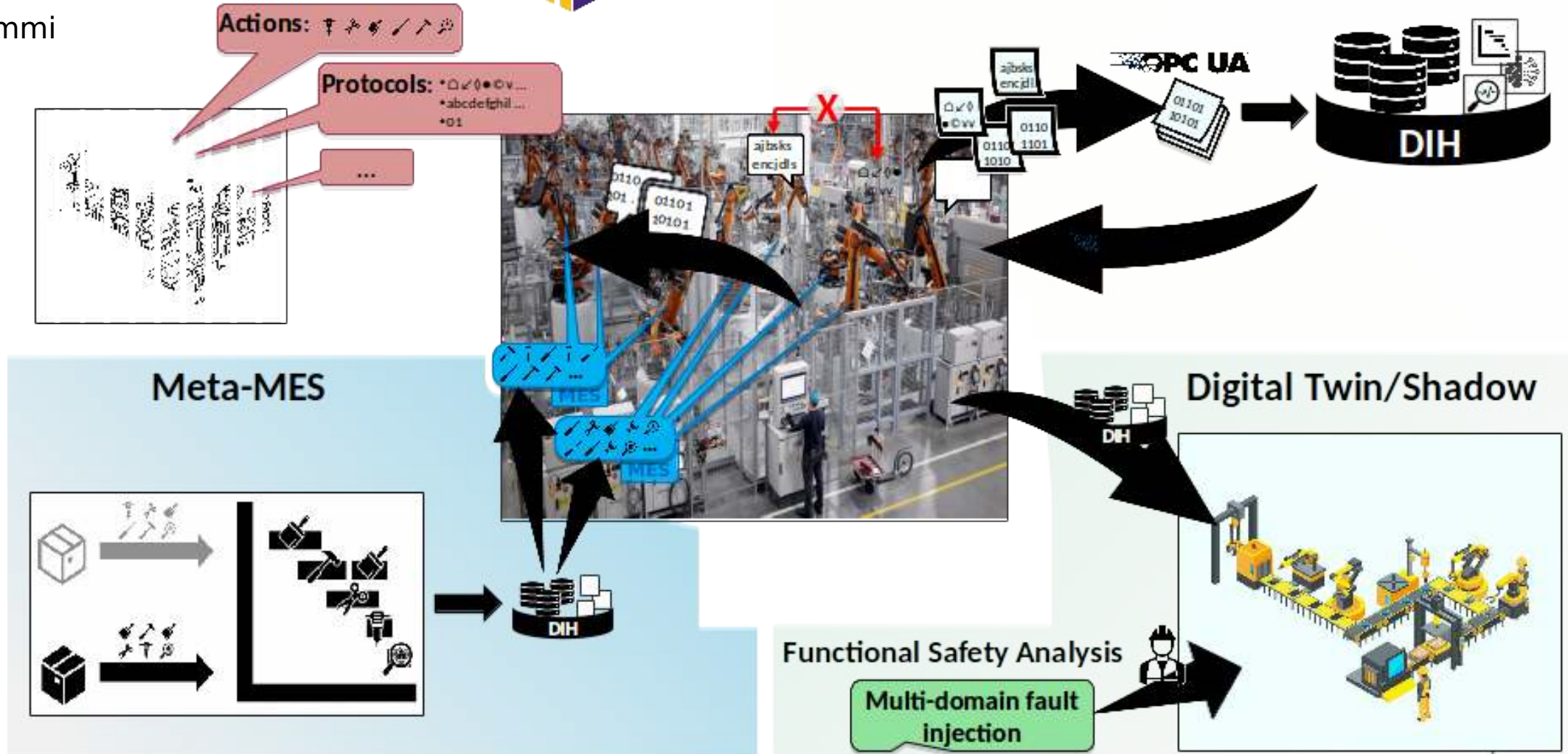
Franco Fummi

Industry 5.0

SysML



Service Oriented Architecture

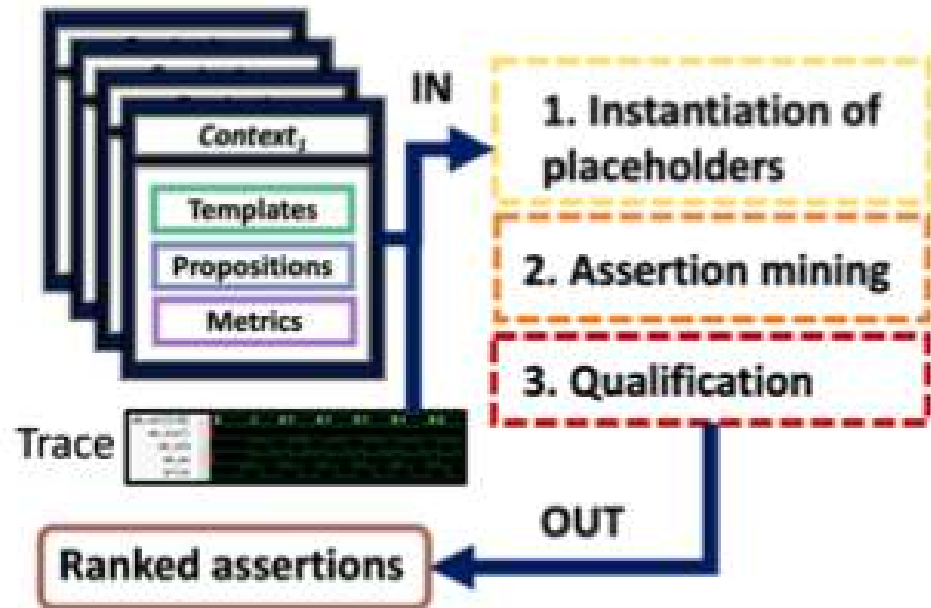




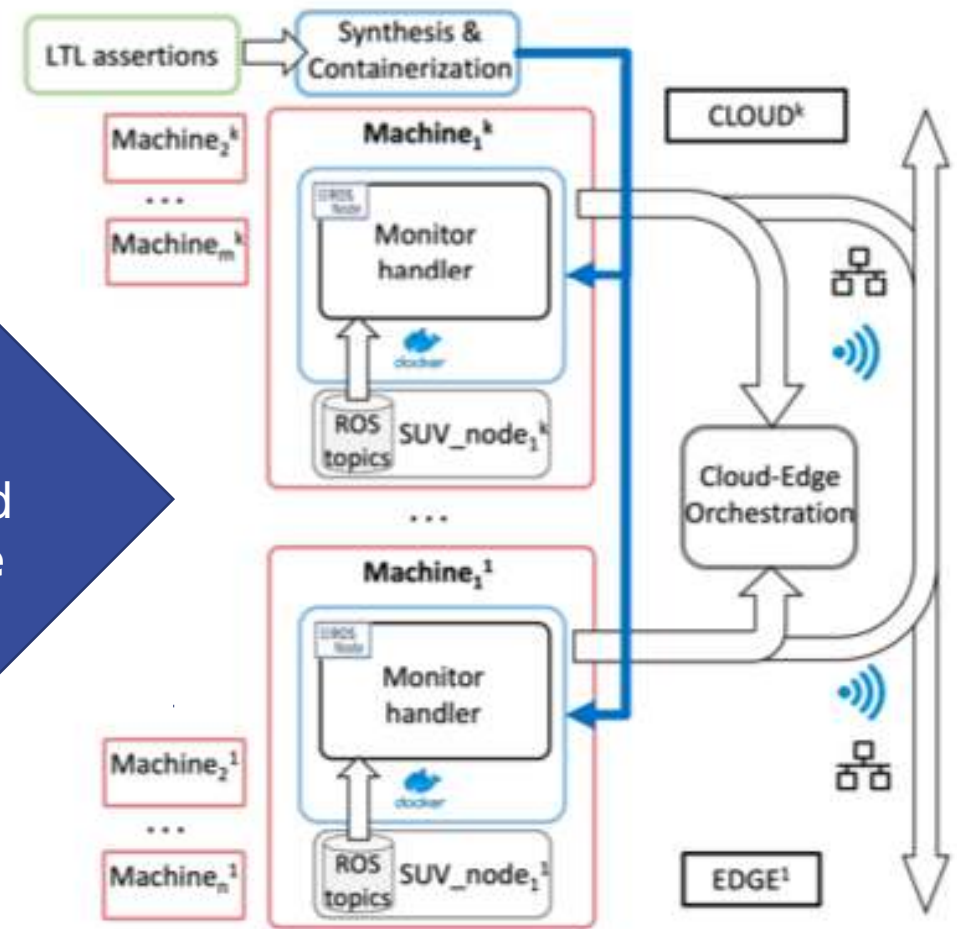
Graziano Pravadelli

Assertion-based verification

Assertions are first automatically mined



and then orchestrated at **run-time**

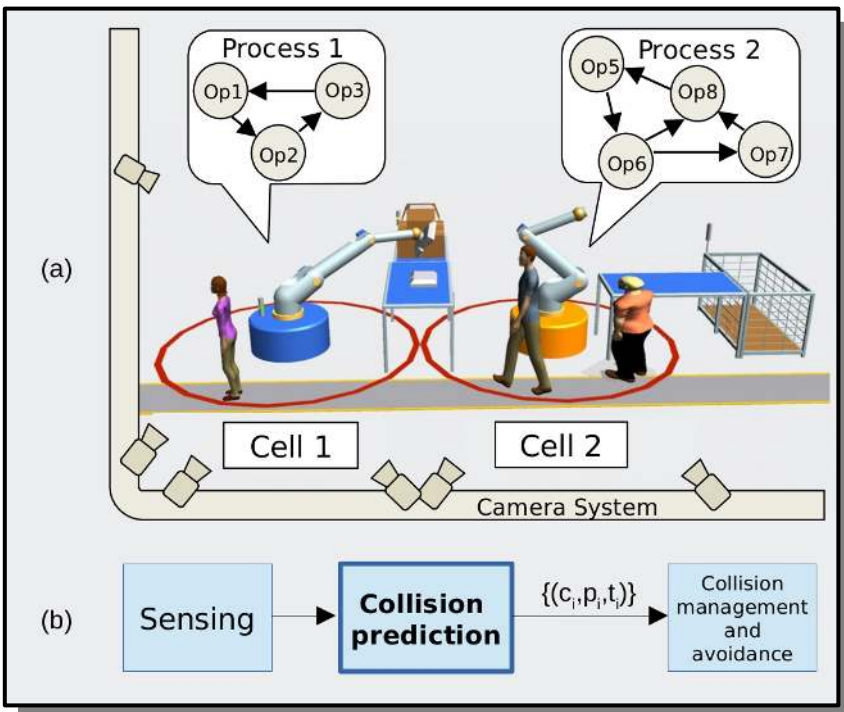
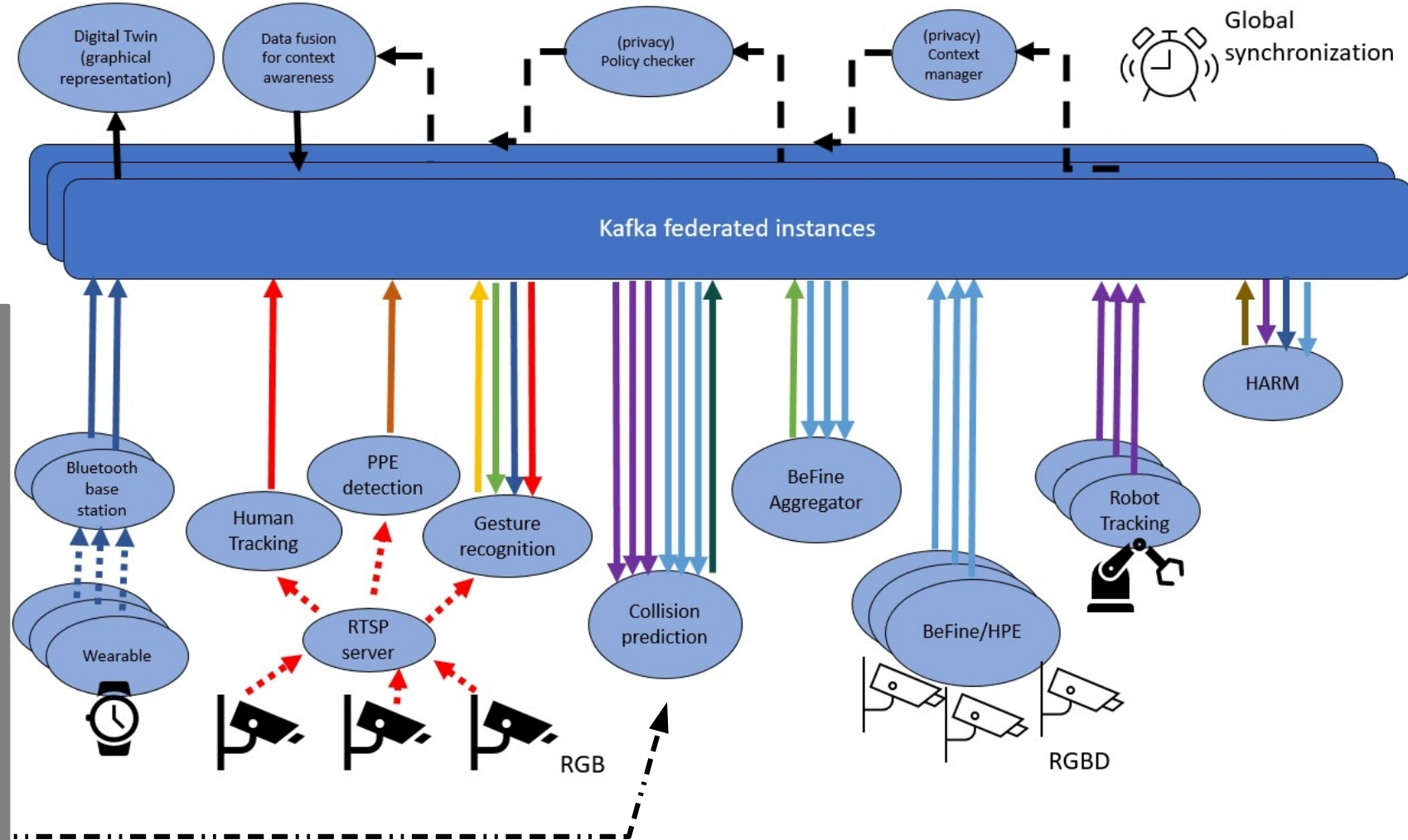




OPERA 4.0

Davide Quaglia

Luca Geretti





Tiziano Villa

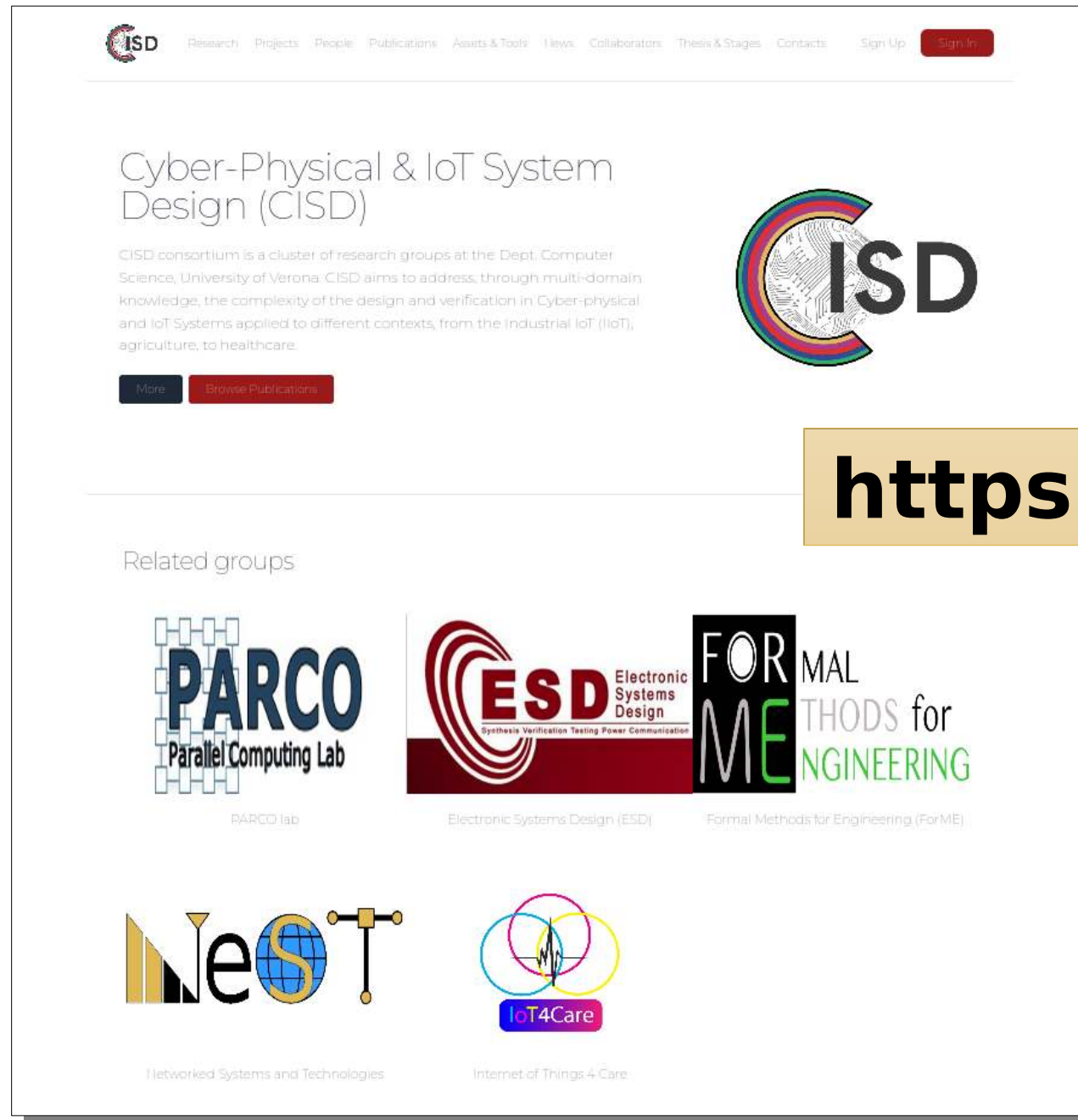
Controlling and Mining of Temporal Networks

Temporal networks are formalisms employed in the **AI community** to model, validate, and execute temporal plans. They consist of a finite set of **events** and a finite set of **delay/deadline constraints** between pairs of events. They might also handle uncontrollable durations, disjunctive and conditional constraints leading to the following problems:

- **real-time planning and scheduling under uncertainty;**
- **mining** to build a model representing a set of given executions.

Recent contributions:

- G. Sciavicco, M. Zavatteri, and T. Villa. Mining CSTNUDs significant for a set of traces is polynomial. Information and Computation, 2021.
 - *A polynomial-time algorithm to mine a significant temporal network from a set of given traces.*
- M. Zavatteri, R. Rizzi, and T. Villa. Dynamic controllability of temporal networks with instantaneous reaction. Information Sciences, 2022.
 - *A unified formalism for advanced temporal planning with uncontrollable durations, controllable and uncontrollable choices, disjunctions, etc. The proposed strategy approach synthesizes C++ controllers for simulating the execution of the temporal plan.*



The screenshot shows the homepage of the CISD consortium. At the top, there is a navigation menu with links for Research, Projects, People, Publications, Assets & Tools, News, Collaborators, Thesis & Stages, Contacts, Sign Up, and Sign In. The main heading is "Cyber-Physical & IoT System Design (CISD)". Below this, a paragraph describes the consortium as a cluster of research groups at the Department of Computer Science, University of Verona, aiming to address the complexity of design and verification in Cyber-physical and IoT systems across various contexts. There are two buttons: "More" and "Browse Publications". A large "CISD" logo is displayed on the right side of the page. Under the heading "Related groups", four logos are shown: PARCO (Parallel Computing Lab), ESD (Electronic Systems Design), FOR ME (Formal Methods for Engineering), and NeST (Networked Systems and Technologies). The IoT4Care logo is also present at the bottom.

Thanks!

<https://cisd.di.univr.it/>