From Artificial Intelligence to Multiagent Systems: Application to Smart Cities and Oncology

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Abstract

This presentation delves into the concepts of Artificial Intelligence (AI) and explores the paradigm of Multiagent Systems (MAS) as a powerful tool for modeling and supporting the implementation of complex systems. We will introduce the ASPECS methodology, a structured approach for designing and developing multiagent systems, and provide an overview of the SARL agent-oriented programming language, which facilitates the creation of sophisticated agent-based applications.

To illustrate the practical applications of these concepts, we will present examples from the domains of smart cities and intelligent transport systems. These examples will demonstrate how MAS can enhance optimize traffic management, and improve overall efficiency and sustainability in urban environments. Additionally, we will explore applications in the field of oncology, showcasing how AI and MAS can help in the determination of the therapeutic targets.

Short Bio

Professor Stéphane Galland is an expert in Agent-oriented Software Engineering and Agent-based Simulation. He has made significant contributions to transportation, smart cities, and Industry 4.0. Prof. Galland co-created the ASPECS methodology, SARL programming language, and Janus agent framework. He has supervised numerous students, led major projects, and published extensively, including 36 international journals and 92 conference proceedings. His work includes 7 software patents and key roles in academic and industrial initiatives.

Declaration on Generative AI

The author has not employed any Generative AI tools.