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Collana	Lecture Notes in Artificial Intelligence ; ; 2699
Disciplina	629.8028563
Soggetti	Artificial intelligence Computer communication systems Special purpose computers Software engineering Computer logic Artificial Intelligence Science, Humanities and Social Sciences, multidisciplinary Computer Communication Networks Special Purpose and Application-Based Systems Software Engineering Logics and Meanings of Programs
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	"What Is an Agent and Why Should I Care?" -- "What Is an Agent and Why Should I Care?" -- Organising Logic-Based Agents -- A Statechart Framework for Agent Roles that Captures Expertise and Learns Improved Behavior -- Formal Specification of Interaction in Agent Societies -- Formal Verification for a Next-Generation Space Shuttle -- Automated Protocol Analysis in Maude -- Towards Interaction Protocol Operations for Large Multi-agent Systems -- Formal Modeling and Supervisory Control of Reconfigurable Robot Teams -- Computational

Models for Multiagent Coordination Analysis: Extending Distributed POMDP Models -- Bounded Model Checking for Interpreted Systems: Preliminary Experimental Results -- Verifiable Middleware for Secure Agent Interoperability -- Distributed Implementation of a Connection Graph Based on Cylindric Set Algebra Operators -- Using Statecharts and Modal Logics to Model Multiagent Plans and Transactions -- Qu-Prolog: An Implementation Language for Agents with Advanced Reasoning Capabilities -- A Model for Conformance Testing of Mobile Agents in a MASIF Framework -- Analysis of a Phase Transition in a Physics-Based Multiagent System -- You Seem Friendly, But Can I Trust You? -- Taking Intelligent Agents to the Battlefield -- Panel Session on "Applications" -- Naval Applications of Secure Multi-agent Technology -- Challenges Arising from Applications -- Applications Panel: Agents Applied to Autonomous Vehicles -- Using XML for Interprocess Communications in a Space Situational Awareness and Control Application -- Panel Session on "Asimov's Laws" -- Asimov's Laws: Current Progress -- Asimov's Laws -- On Laws of Robotics -- Panel Session on "Tools and Education" -- Challenges Arising from Applications of Agent-Based System -- Tools and Education towards Formal Methods Practice -- Poster Presentations -- Evaluating Agent-Based Modeling as a Tool for Economists -- Modeling Traffic Control through Deterrent Agents -- Towards a Formal Representation of Driving Behaviors -- Formal Analysis of an Agent-Based Medical Diagnosis Confirmation System -- Agent Programming in Dribble: From Beliefs to Goals with Plans.

Sommario/riassunto

The idea of a FAABS workshop was first conceived in 1998 at the NASA Goddard Space Flight Center, while the Agent Technology Development Group in the Advanced Architectures and Automation Branch (Code 588) was developing a prototype agent community to automate satellite ground operations. While developing this system, several race conditions arose within and between agents. Due to the complexity of the agents and the communications between them, it was decided that a formal approach was needed to specify the agents and the communications between them, so that the system could be checked for additional errors. A formal model of the inter-agent communications was developed, with the expectation that this would enable us to find more errors. Success in this convinced us of the importance of using formal methods to model agent-based systems. To share our own experiences and to learn how others were approaching these issues, we decided to hold a workshop on formal methods and agent-based systems. The response was overwhelming. The result was the first FAABS workshop, which was held at the NASA Goddard Space Flight Center. Posters, paper presentations, panels, and an invited talk by J Moore stimulated much discussion and subsequent collaboration.
