This book addresses the challenge of unified and distributed computing in strong heterogeneous environments ranging from Sensor Networks to Internet Clouds by using Mobile Multi-Agent Systems. A unified agent behaviour model, agent processing platform architecture, and synthesis framework should close the operational gap between low-resource data processing units, for example, single microchips embedded in materials, mobile devices, and generic computers including servers. robustness, scalability, self-organization, reconfiguration and adaptivity including learning are major cornerstones.

The outstanding book covers various topics to reach the ambitious goal of an unified smart and distributed computing model contributing to the design of future intelligent sensing systems:
Multi-Agent Systems, Agent Processing Platforms, System-on-Chip Designs, Architectural and Algorithmic Scaling, High-level Synthesis, Agent Programming Models and Languages, Self-organizing Systems, Numerical and AI Algorithms, Distributed Machine Learning, Energy Management, Distributed Sensor Networks, and multi-domain simulation techniques. None of these topics may be considered stand-alone. Only a balanced composition of all topics can meet the requirements in future computing networks, for example, the Internet-of-Things with billions of heterogeneous devices.

About the author: Stefan Bosse studied Physics and received a PhD/doctoral degree (Dr. rer. nat.) in physics in the year 2002 at the University of Bremen. In the year 2016 he received the Venia Legendi in Computer Science at the University of Bremen. Since 2017 he is teaching and researching as a Privatdozent at the University of Bremen, Department of Computer Science, with a second interim professorship at the University of Koblenz-Landau. He published about 100 scientific conference and journal papers with an interdisciplinary background. His main research area is distributed artificial intelligence.

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