Call for Open Access Book Chapters

Artificial Intelligence, Data and Robotics: Foundations, Transformations, and Future Directions

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Overview
Artificial intelligence, Data and Robotics (ADR) present an opportunity and a challenge for our society, a chance to improve the competitiveness of the public and private sectors, and a challenge to translate core ADR technical strengths to deliver industrial competitiveness, societal well-being, and environmental sustainability.

The European Partnership on AI, Data, and Robotics has mobilised the ADR ecosystem in Europe to provide strong leadership in these areas, both in science, innovation, and deployment. It creates dialogues that address fundamental issues around deployment and citizen trust in AI. It enables a rich ADR innovation ecosystem built on Europe's many strong components, from its strong academic excellence, strong skills pipeline, and global companies to its innovation-driving regulation and standards coupled with best practices. The vision is to lead the world in researching, developing, and deploying value-driven, trustworthy ADR based on fundamental European rights, principles, and values.

This Open Access book will study the foundations of the emerging ADR research and innovation ecosystem and the associated enablers necessary to deliver value-driven ADR for business and society. The book is a compilation of selected high-quality chapters covering best practices, technologies, experiences, and practical recommendations on research and innovation.

Aims and Goals
The aim of the book is to educate the reader on techniques and technologies for AI, Data and Robotics. The book will explore cutting-edge theories, technologies, methodologies, and best practices within industrial and public sector scenarios. The book provides the reader with a basis for understanding the scientific foundations, the transformation potential of the technologies, and the future research challenges. The book will have two primary audiences. First, researchers and students in the fields of AI, Data and Robotics and associated disciplines, e.g. computer science, information technology, and information systems among others. Second, industrial practitioners will find practical recommendations based on rigorous studies that contain insights and guidance on ADR across several technology and innovation areas. Finally, the book would interest local, national, and international policymakers.

Topics
Topics of interest to the book include, but are not limited to, the following:

Area A: Foundations
- Edge AI
- Distributed AI

- Hybrid AI Models and Architectures
- Human-in-the-loop
- Data-driven AI Models
- Cognitive Computing
- Sensing and Perception
- Knowledge and Learning
- Action and Interaction
- Neuromorphic AI
- AI and Data Life Cycle Management and Governance
- Standards for AI and Data Interoperability
- Data Enrichment for AI and Robotics
- Reasoning and Decision-Making
- Systems, Methodologies, Hardware and Tools.
- Standardisation and Interoperability
- Novel design concepts for flexible robot end-effectors
- Human-robot collaboration

Area B: Transformations
- AI and Data for Robotics
- Autonomous Robots
- Grand Challenges
- Transformation in Manufacturing
- Transformation in Healthcare
- Transformation in Telecommunications
- Transformation in Industrial Optimization
- Transformation in Cognitive Ergonomics

Area C: Future Directions
- Forward-looking roadmaps for research and innovation
- Open challenges

Schedule and Deadlines

November 2024	CFP issued
6th Jan 2025	Chapter proposal submission deadline (abstract only)
10th Jan 2025	Notification of proposal acceptance
7th March 2025	Full chapter submission
4th April 2025	Review comments (4 weeks)
25th April 2025	Revised Chapter Submission (3 weeks) - Along with response to reviewer comments - Signed Copyright Agreement
2nd May 2025	Final acceptance notification (1 week)
Q3-Q4 2025	Estimated publication

Submission
Researchers and practitioners are invited to submit, on or before January 6th, 2025, a summary (abstract) consisting of a title and 150-200 words identifying the main objectives of your contribution and how it fits within the edited book. Authors of accepted proposals will be notified in November 2024 about the status of their proposals and provided with chapter formatting guidelines.

Chapter proposal must be submitted via email at: heike.vornhagen@insight-centre.org
For further information, please contact the editors at: heike.vornhagen@insight-centre.org