Preface

This book distils the experiences from the <u>International Federation of Library Associations and Institutions (IFLA) Information Technology Section</u> conferences focussed on artificial intelligence (AI) which were held in Dublin and Galway, Ireland and Singapore in 2022 and 2023. It brings together working projects and observations on the ethics and practice of AI in the library field. It is a book that explores the implications for libraries of engaging with AI, and the current and potential applications of AI in libraries. It highlights both technology and ethics of AI in libraries, the governance and ethical considerations for engaging in AI and showcases various library IT projects, collaborations, and future uses of AI tools and techniques that can enhance the services, progress and competitive advantage of libraries.

Aspects of AI addressed within the book include:

- Machine and deep learning, content indexing, metadata, labelling and summation: AI can automate the process of indexing and summarising documents, images and audiovisual media, making them more accessible and discoverable across different disciplines and contexts
- Information retrieval and analysis: AI can help users find and analyse relevant information from large and complex data sources, using natural language processing, machine learning, neural nets, deep learning and semantic web technologies
- User engagement and personalisation: AI can improve user experience and satisfaction by providing personalised recommendations, feedback, and assistance, using chatbots, voice assistants, and sentiment analysis, and
- Library management and operations: AI offers the promise of optimising library workflows and processes by automating tasks, reducing errors, and saving time and resources, using robotics, computer vision, and predictive analytics. It can open possibilities for new service delivery options, including enhanced 24/7 support for library operations including summarising and annotating research and other user assistance.

The book is divided into four sections:

- Section 1: Current Directions in Artificial Intelligence for Libraries, which provides an overview of AI and its intersection with libraries and robotics
- Section 2: Implications for Use of Artificial Intelligence in Libraries and Education, which extends the discussion of AI into the domains of ethics, the policy implications for governance, usage in the educational and learning domains and the infrastructure implications of AI

– Section 3: Projects in Machine Learning and Natural Language Processing, which provides deep dives into projects demonstrating the use of AI across key technology applications for libraries in machine learning and natural language processing, and
– Section 4: Artificial Intelligence in Library Services, which explores practical case studies in engaging with AI in different library applications.

We present this book as a resource for librarians who want to learn more about the opportunities and challenges of AI in the library field, commend it to you, the reader, and look forward to an exciting future for the application and use of artificial intelligence in libraries.

An Artificial Intelligence Special Interest Group (AI SIG) is sponsored by the IFLA Information Technology Section. Projects undertaken by the Group are publicised on the IFLA website, with two of particular interest: Developing a Library Strategic Response to Artificial Intelligence and Generative AI for Library and Information Professionals.

The area of AI is fast moving. This publication provides the reader with an opportunity to survey the many aspects of the application of recent developments in AI in the library context. The book is the culmination of the real and human projects and efforts of the authors, editors and our publisher, De Gruyter. It is they who have made this publication possible and we thank all involved. We gratefully acknowledge the funding from IFLA that has enabled this publication to be released in open access, and the work of Janine Schmidt, the Series Editor, in the final editing of the publication.

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