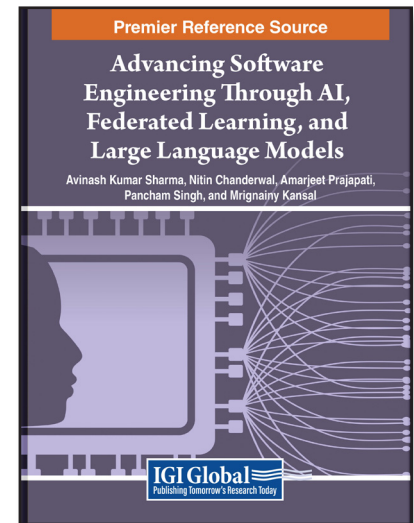


Advancing Software Engineering Through AI, Federated Learning, and Large Language Models

Part of the Advances in Systems Analysis, Software Engineering, and High Performance Computing Book Series

Avinash Kumar Sharma (Sharda University, India), Nitin Chanderwal (University of Cincinnati, USA), Amarjeet Prajapati (Jaypee Institute of Information Technology, India), Pancham Singh (Ajay Kumar Garg Engineering College, India) and Mrignainy Kansal (Ajay Kumar Garg Engineering College, India)



Description:

The rapid evolution of software engineering demands innovative approaches to meet the growing complexity and scale of modern software systems. Traditional methods often need help to keep pace with the demands for efficiency, reliability, and scalability. Manual development, testing, and maintenance processes are time-consuming and error-prone, leading to delays and increased costs. Additionally, integrating new technologies, such as AI, ML, Federated Learning, and Large Language Models (LLM), presents unique challenges in terms of implementation and ethical considerations.

Advancing Software Engineering Through AI, Federated Learning, and Large Language Models provides a compelling solution by comprehensively exploring how AI, ML, Federated Learning, and LLM intersect with software engineering. It equips readers with the knowledge and practical insights needed to harness these technologies effectively, enhancing software development, testing, maintenance, and deployment processes. By presenting real-world case studies, practical examples, and implementation guidelines, the book ensures that readers can readily apply these concepts in their software engineering projects.

Researchers, academicians, practitioners, industrialists, and students will benefit from the interdisciplinary insights provided by experts in AI, ML, software engineering, and ethics. Moreover, the forward-looking section discussing future trends and research directions will inspire readers to explore new avenues in software engineering. This book serves as a valuable resource for those seeking to leverage advanced technologies to improve software engineering processes, making it an essential addition to the library of anyone involved in software development.

ISBN: 9798369335024

Pages: 330

Copyright: 2024

Release Date: April, 2024

Hardcover: \$355.00

E-Book: \$355.00

**Hardcover +
E-Book:** \$425.00

Topics Covered:

- AI-Enhanced Software Development
- AI for Bug Detection and Resolution in Software Engineering
- Application of Machine Learning for Software Engineers
- Emerging Trends in AI, ML, Federated Learning, and LLM
- Enhancing Software Reliability with ML
- Ethical Implications of AI and ML in Agile Development
- Federated Learning for Collaborative Open-Source Projects
- Federated Learning Use Cases in Software Engineering
- Future Trends in AI, ML, Federated Learning, and LLM
- Industry-specific Applications of AI and ML
- Introduction to AI, ML, Federated Learning, and LLM in Software Engineering
- Introduction to Large Language Models (LLM) in Software Engineering
- Regression Testing with AI and ML
- Security Measures in AI and ML Software Development
- Software Testing and Quality Assurance with ML

Subject: Computer Science & Information Technology

Classification: Edited Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners

Order Information

Phone: 717-533-8845 x100

Toll Free: 1-866-342-6657

Fax: 717-533-8661 or 717-533-7115

Online Bookstore: www.igi-global.com

Mailing Address: 701 East Chocolate Avenue, Hershey, PA 17033, USA