Record Nr. UNISA996546838603316 Autore Romero José Raúl Titolo Optimising the Software Development Process with Artificial Intelligence [[electronic resource] /] / edited by José Raúl Romero, Inmaculada Medina-Bulo, Francisco Chicano Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-19-9948-1 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (349 pages) Collana Natural Computing Series, , 2627-6461 Altri autori (Persone) Medina-BuloInmaculada ChicanoFrancisco Disciplina 005.1028563 Soggetti Artificial intelligence Software engineering Machine learning Artificial Intelligence Software Engineering Machine Learning Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Introduction -- Artificial Intelligence in Software Project Management -- Requirements Engineering -- Leveraging Artificial Intelligence for Model-based Software Analysis and Design -- Statistical Models and Machine Learning to Advance Code Completion -- Cloud development and deployment -- Automated Support for Unit Text Generation: A Tutorial Book Chapter -- Artificial Intelligence Techniques in System Testing -- Intelligent Software Maintenance -- Metaheuristics in a nutshell -- Foundations of Machine Learning for Software Engineering. Sommario/riassunto This book offers a practical introduction to the use of artificial intelligence (AI) techniques to improve and optimise the various phases of the software development process, from the initial project planning to the latest deployment. All chapters were written by leading experts in the field and include practical and reproducible examples. Following the introductory chapter, Chapters 2-9 respectively apply AI techniques

> to the classic phases of the software development process: project management, requirement engineering, analysis and design, coding,

cloud deployment, unit and system testing, and maintenance. Subsequently, Chapters 10 and 11 provide foundational tutorials on the AI techniques used in the preceding chapters: metaheuristics and machine learning. Given its scope and focus, the book represents a valuable resource for researchers, practitioners and students with a basic grasp of software engineering.