

1. Record Nr.	UNINA9910808154903321
Autore	Smith Adam Leon
Titolo	Artificial intelligence and software testing : building systems you can trust // Adam Leon Smith [and five others]
Pubbl/distr/stampa	Swindon, UK : , : BCS Learning and Development Ltd, , [2022] ©2022
ISBN	1-78017-578-7
Descrizione fisica	1 online resource (194 pages)
Disciplina	006.3
Soggetti	Artificial intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Front Cover -- Half-Title Page -- Bcs, The Chartered Institute For It -- Title Page -- Copyright Page -- Contents -- List of figures and tables -- About the authors -- Abbreviations -- Glossary -- Preface -- 1. Introduction -- The challenges of testing AI -- Summary -- 2. AI Trustworthiness and Quality -- Trustworthiness -- AI quality problems -- A model for measuring AI quality -- Regulation of AI quality -- Summary -- 3. Quality and Bias -- Consequences of the bias definition -- Bias in everyday life -- Unintended bias -- Simpson's paradox -- Summary -- 4. Testing Machine Learning Systems -- The role of a tester -- The nature of ML -- Testing metrics -- Testing techniques -- Testing AI-specific characteristics -- Non-deterministic systems -- Transparency, explainability and interpretability -- Summary -- 5. AI-based Test Automation -- Quality assurance -- Testing versus test automation -- AI in unit test automation -- AI in UI level test automation -- Applying AI to other tasks in software quality assurance -- Evaluating tool support for testing -- Tasks that will likely remain challenging for AI -- Summary -- 6. Ontologies for Software Testing -- About ontologies -- Using ontologies for software testing -- Trends in ontology-driven software testing -- Summary -- 7. Shifting Right into the Metaverse with Digital Twin Testing -- The shift-right approach to testing -- Cognitive engineering principles -- Digital twin concept in shifting right -- Case study: helping the community stay safe during the pandemic -- Case study: Smart City Data Exchange - testing in the

Sommario/riassunto

AI presents a new paradigm in the development of software, representing the biggest change to how we think about quality and testing in decades. Many well known issues around AI manifest as quality management problems. This book explores AI from that angle and is aimed at testing and quality management practitioners who want to understand more.