

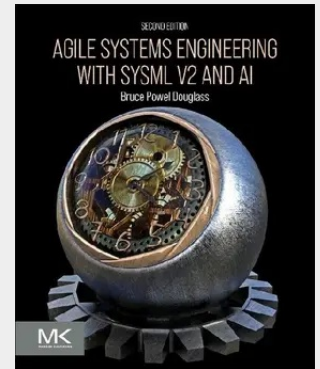
Agile Systems Engineering with Sysml V2 and AI

Agile Systems Engineering with SysML v2 and AI, Second Edition presents a practical vision of systems engineering in which requirements, structure, behavior, and analysis are captured as precise engineering data—while still addressing the “big system” concerns of safety, security, reliability, privacy, and performance in an agile context. World-renowned author and speaker Dr. Bruce Powel Douglass shows how agile methods, model-based systems engineering (MBSE), and artificial intelligence (AI), work together to reduce ambiguity, expose defects earlier, and sustain end-to-end traceability from stakeholder intent to verification evidence. This edition goes beyond concepts by providing usable, repeatable workflows for modern programs—covering incremental, agile, and DevSecOps-oriented lifecycles and the concrete process steps and gates that make them executable in practice. Rather than treating modeling as documentation, the book treats SysML v2 as a semantic backbone for capturing requirements, architecture, interfaces, behaviors, constraints, and verification intent in one coherent source of truth. New to this edition is an introduction to SysML v2 and an entire chapter on AI and modern MBSE, showing where AI assistants provide leverage, how to apply quality-control gates to keep outputs trustworthy, and how to integrate AI into real engineering workflows without surrendering correctness. Each chapter includes AI prompt patterns for MBSE—ready-to-use prompt structures for generating SysML v2 model elements, extracting and normalizing requirements from external sources, reconciling terminology, and reviewing models against project rules and acceptance criteria. Throughout, Douglass equips systems engineers with concrete methods to prevent specification defects, improve system quality, and reduce rework—so teams can move faster and build with greater confidence.

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