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Nota di contenuto	Graph Transformation Theory: Semantics and Static Analysis: Termination of Injective DPO Graph Rewriting Systems using Subgraph Counting -- Rewriting for Traced Monoidal Closed Categories -- Parallel Rule Application with Doubling Avoidance -- Granular Conflict Analysis for Transformation Rules with Application Conditions. Specifying Graph Properties via Automata and Logic: Specifying and Checking Graph Properties with Alternating Graph Automata -- Graph Formulas and their Translation to Alternating Graph Automata.

Applications of Graph Transformation for Program Verification and Testing: Fuzzing Graph Database Applications with Graph Transformations -- Counterexample-Guided Abstraction Refinement for Generalized Graph Transformation Systems -- Test Case Generation from Graph Transformation Systems using Deep Reinforcement Learning. Applications of Graph Transformation for Modeling: Graph-transformational Threat Modeling -- Graph Rewriting for User State-Based Dialogue Adaption in Real-Time: An Application in Personalized Interview Training.

Sommario/riassunto

This book constitutes the refereed proceedings of the 18th International Conference on Graph Transformation, ICGT 2025, held in Koblenz, Germany, during June 11-12, 2025. The 10 full papers and 1 short paper included in this book were carefully reviewed and selected from 19 submissions. The topics of the accepted papers cover a wide spectrum, ranging from advancements in the classical theory of graph transformation to the integration of artificial intelligence approaches with graph transformations, the fuzzing of graph databases, and applications of graph transformation in areas such as dialogue management systems and threat analysis.