Record Nr. UNINA9910349396603321 Leveraging Applications of Formal Methods, Verification and Validation. Titolo Modeling: 8th International Symposium, ISoLA 2018, Limassol, Cyprus, November 5-9, 2018, Proceedings, Part I / / edited by Tiziana Margaria, Bernhard Steffen Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2018 **ISBN** 3-030-03418-6 Edizione [1st ed. 2018.] Descrizione fisica 1 online resource (XV, 588 p. 229 illus., 136 illus. in color.) Collana Theoretical Computer Science and General Issues, , 2512-2029;; 11244 Disciplina 004.0151 Software engineering Soggetti Compilers (Computer programs) Artificial intelligence Computer science Computer engineering Computer networks Computers **Professions** Software Engineering Compilers and Interpreters Artificial Intelligence Theory of Computation Computer Engineering and Networks The Computing Profession Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Towards a Unified View of Modeling and Programming - ISoLA 2018 Nota di contenuto Track Introduction -- On Modeling and Programming -- Definition of

Modeling vs. Programming Languages -- A Non-unified View of Modelling, Specification and Programming -- Using Umple to

Synergistically Process Features, Variants, UML Models and Classic

Code -- Why Programming Must Be Supported by Modeling and How --On Models and Code - A Unified Approach to Support Large-Scale Deductive Program Verification -- Type Theory as a Framework for Modelling and Programming -- Bringing Effortless Refinement of Data Layouts to Cogent -- Programming Is Modeling -- Programming language specification and implementation -- Modeling with Scala --This is not a model -- A Unified Approach for Modeling, Developing, and Assuring Critical Systems -- Towards Interactive Compilation Models -- From Computational Thinking to Constructive Design with Simple Models -- Design Languages: A Necessary New Generation of Computer Languages -- From Modeling to Model-based Programming -- Fusing Modeling and Programming into Language-Oriented Programming -- On the Difficulty of Drawing the Line -- X-by-Construction - Track Introduction -- (Some) security by construction through a LangSec approach -- Program Correctness by Transformation -- Design 4 X through Model Transformation --Modelling by Patterns for Correct-by-Construction Process -- Modular, Correct Compilation with Automatic Soundness Proofs -- Deployment by Construction for Multicore Architectures -- Towards Software Performance by Construction -- Is Privacy by Construction Possible? --X-by-C: Non-Functional Security -- Towards Confidentiality-by-Construction -- A Tutorial Introduction to Graphical Modeling and Metamodeling with CINCO -- Model-based Development for High-Assurance Embedded Systems -- DSLs for Decision Services: A Tutorial Introduction to Language-Driven Engineering -- Tutorial: an Overview of Malware Detection and Evasion Techniques.

Sommario/riassunto

The four-volume set LNCS 11244, 11245, 11246, and 11247 constitutes the refereed proceedings of the 8th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation, ISoLA 2018, held in Limassol, Cyprus, in October/November 2018. The papers presented were carefully reviewed and selected for inclusion in the proceedings. Each volume focusses on an individual topic with topical section headings within the volume: Part I, Modeling: Towards a unified view of modeling and programming; X-by-construction, STRESS 2018. Part II, Verification: A broader view on verification: from static to runtime and back; evaluating tools for software verification; statistical model checking; RERS 2018; doctoral symposium. Part III, Distributed Systems: rigorous engineering of collective adaptive systems; verification and validation of distributed systems; and cyber-physical systems engineering. Part IV, Industrial Practice: runtime verification from the theory to the industry practice; formal methods in industrial practice - bridging the gap; reliable smart contracts: state-of-the-art, applications, challenges and future directions; and industrial day. .