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Parsing the Language of Mathematics. -- Mathematical Knowledge Management. -- Reaping the Benefits of Modularization in Flexiformal Mathematics by GFbased AST Transformations. -- Semantic Authoring in a Flexiformal Context — Bulk Annotation of Rigorous Documents. -- Michael Kohlhase and Jan Frederik Schaefer Lightweight Realms. -- Indexing and Retrieval in a Heterogeneous Formal Library. -- Neural Language Models. -- Exploring Proof Autoformalization with Mistral on Herald. -- Boosting Math Problem Solving in Small LLMs via Ensembles. -- Proof Assistants and Formalizations. -- Formalizing a Classification Theorem for Low-Dimensional Solvable Lie Algebras in Lean. -- Certified Algorithms for Numerical Semigroups in Rocq. -- Formalizing the Solow Model in Naproche. -- Formalizing MLTL Formula Progression in Isabelle/HOL. -- Formalising Fairness in the Assignment Problem with Ordinal Preferences in Isabelle/HOL. -- A PVS Library on the Infinitude of Primes. -- Vector Graphics through Category Theory. -- A Lean-Based Language for Teaching Proof in High School.

Sommario/riassunto

This book constitutes the refereed proceedings of the 18th International Conference on Intelligent Computer Mathematics, CICM 2025, held in Brasilia, Brazil, during October 6–11, 2025. The 24 full papers were presented in this volume were carefully reviewed and selected from 34 submissions. They were organized in the following topical sections as follows : Automated Reasoning; Formal Libraries; Logical and Linguistic Foundations; Mathematical Knowledge Management; Neural Language Models; and Proof Assistants and Formalizations.