

Special Issue

Mathematical Methods Applied in Software Engineering

Message from the Guest Editors

Software engineering is a rapidly evolving field that demands rigorous methods to ensure the reliability, correctness, and efficiency of software systems. In this context, mathematical methods play a vital role by providing formal foundations, methodologies, and tools for modeling, specification, verification, and optimization of software and its development processes. This Special Issue aims to highlight the significance of mathematical approaches in addressing the increasing complexity of modern software systems. Potential topics of interest include, but are not limited to, formal methods, logic-based reasoning, algebraic and categorical models, graph theory applications, model checking, and probabilistic methods in software reliability, prediction, and explanation. By promoting the integration of mathematics into software engineering practices, this Special Issue provides a platform for interdisciplinary research that bridges theory and practice. We invite contributions that demonstrate how mathematical rigor can lead to more robust, maintainable, and verifiable software systems, and how these methods can be effectively applied in real-world software development challenges.

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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