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on

Data Mining in Engineering

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TOPICS OF INTEREST

Advancements in technology are a permanent driver for developments in engineering. But, at the same time, these advancements have introduced problems of a new type. One of these problems is the growing amount of data available to derive engineering decisions. In many practical applications the amount and complexity of data are so huge that decisive characteristics cannot be retrieved with reasonable effort, computational resources and time. For example, sensor and monitoring technology can provide data from engineering processes, systems and structures depending on spatial and time coordinates with almost arbitrary resolution. Fast or on-line decision-making or process control is then critical due to a demanding data analysis. Computational results are increasingly available in form of multi-dimensional samples from stochastic simulations, which challenges the engineer in identifying the most important dependencies and effects. Also, decision-making in management and strategy may involve this problem when pursued with web-based data collections of almost unlimited size and diversity. Surveillance data in the area of safety, security and defense possess a complexity which makes a fast evaluation difficult. To solve these problems, innovative concepts from Computer Science and Mathematics are increasingly implemented in engineering solutions. This Special Issue is focused on both theoretical and practical contributions dealing with large amounts of complex data from an engineering, computer science and mathematics perspective.

SUBMISSION GUIDELINES

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