



e-Informatica

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Call for Papers

Special Section on

Rise of Predictive Maintenance for Software Systems using AI

AIM AND SCOPE

In recent years, the use of artificial intelligence (AI) has rapidly increased in various industries, including software systems. Predictive maintenance is an AI-powered technique that predicts the likelihood of equipment failures, allowing organizations to take preventative measures before equipment fails. With the increasing complexity and criticality of software systems, predictive maintenance has become crucial for ensuring their reliability, performance, and availability. Today, the software systems that power our society run faster than ever. The power of AI has increased dramatically, making it possible to build complex models and identify remedies for trouble spots before they occur. Predictive Maintenance for Software Systems is the next evolution in software development, combining the best of AI with a holistic understanding of how things work. Predictive maintenance (PM) is a maintenance concept that involves using predictive analytics to monitor and identify the potential failure of machinery. Predictive Maintenance for Software Systems with Artificial Intelligence (AI) is used to create an integrated system that can be used for real-time identification of bugs and failures before they occur. The need for more technical research on Predictive Maintenance for Software Systems using AI is relevant. This will help engineers to understand how they can improve the performance of their software systems through predictive maintenance techniques. The trend of predictive maintenance will help companies save money and time and improve quality in many ways. Also, there is a clear demand from customers relying on our products to run their business or industry operations smoothly. While there has been a lot of interest in predictive maintenance for software systems, research efforts on this topic need to be more focused to provide practical solutions for many practitioners. Recent advances in artificial intelligence (AI) have made it possible to build more accurate and efficient models for this problem. As such, an opportunity exists to build a better understanding of the problem at hand so that, together with AI, we can create new tools that will bring significant value to organizations using them.

This special section aims to provide a comprehensive overview of the current state of the art in predictive maintenance for software systems using AI, including theoretical and practical contributions. We seek to bring together a diverse group of researchers and practitioners to share their experiences and insights on the challenges and opportunities of applying AI to predictive maintenance.

TOPICS OF INTEREST

List of topics for this special issue include, but not limited to the following:

- Machine learning algorithms for predictive maintenance in software systems
- Predictive models for software system reliability and performance
- AI-based approaches for software system monitoring and diagnostics
- Case studies and real-world applications of predictive maintenance in software systems
- Methods for evaluating the effectiveness of predictive maintenance in software systems
- Integration of predictive maintenance with other software management practices
- Data analytics for predictive maintenance of software systems
- Machine learning methods for predicting failures in software systems
- Machine learning and AI techniques for predictive maintenance
- Data analytics and big data in the context of predictive maintenance
- Practical application of AI to predictive maintenance
- Applying AI to predictive maintenance of large, complex systems
- Automating the process of problem detection and diagnosis
- Detecting anomalies in software systems with machine learning
- Methodologies for collecting data from real-world systems and building models that generalize well to new data sets.
- Techniques for evaluating the effectiveness of predictive maintenance models on new datasets.

SUBMISSION AND IMPORTANT DATES

The special sections' paper submission page is available at <https://mc.manuscriptcentral.com/e-InformaticaSEJ>. When submitting the manuscript for this special section, please select "Special issue article" as the manuscript type and mention "Special section: Rise of Predictive Maintenance for Software Systems using AI" in your cover letter. Formatting templates can be found at https://www.e-informatyka.pl/attach/e-Informatica_-_Downloads/AuthorGuide.zip. Please note that the journal of *E-Informatica Software Engineering* prescribes the use of a "structured abstract" including the following components: Context, Objective, Method, Results and Conclusions. All contributions must not have been previously published or be under consideration for publication elsewhere. A submission extended from a previous conference version must have at least 30% new material.

Tentative Timeline

Paper Submission Deadline	: January 30, 2024
Author Notification	: March 30, 2024
Revised Papers Submission	: May 15, 2024
Final Acceptance	: June 30, 2024

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