RESEARCH PROJECT 2022-2023

Department/Area

Telematics/CompSc,IIT

Title/Name

Digital Twin based on Reinforcement Learning Techniques for water circulating pumps of a power plant

Abstract/Description

Failures in rotating machines have a great impact on the operation and maintenance of power generation plants, and in general, on industrial production systems. These failures have a great simultaneous impact on various areas of the industrial process, such as the reliability of the operation, its maintenance and the use of available financial and human resources.

All of this makes it necessary to continuously monitor the condition of these machines in order to detect anomalies as soon as possible and diagnose their causes. This work intends to study and evaluate the application of Deep Learning and Reinforcement Learning techniques for this purpose using real data from water circulating pumps of a power plant.

Prerequisites

Required	Python, machine learning techniques
Recommended	

Supervisor(s)/Tutor(s)

Name(s)	Miguel A. Sanz Bobi, Antonio Muñoz San Roque
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Structure

Format	Semester (extensive, 15 weeks), Summer (intensive, preferably 8 weeks), Both are available

Workload	100 hours (4 ECTS)
Students	1