

## **Adaptive sampling algorithm for fault detection of port cranes**

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Port cranes are responsible for loading and unloading containers from intercontinental freights. Since these cranes are under heavy load, it is imperative that their structure is safe and any impending faults are detected in advance. What make the problem more challenging is the changing speed of motors in the system adding noise to the sensor signal, and therefore it is important to sample while the speed remains constant. This leads to an interesting problem of adaptive control to sample as many samples of constant speed as possible. The problem can be addressed as either supervised learning or reinforcement learning.

The successful candidate will have a strong foundation in signal processing and familiarity with machine learning algorithms.

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