**Structural integrity and fault detection for port cranes**

**Faculty advisor:** Prof. Chi-Guhn Lee

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. Resultantly, port cranes are equipped with sensors that report on various conditions of the structure. In this project, the student will develop an algorithm that detects structural faults in port cranes given multi-variate sensor data and a particular challenge can be varying speed of motors in the system.

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

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