Failure Detection and Classification for Wind Turbines

Faculty advisor: Prof. Chi-Guhn Lee

Wind turbines are complex machines that respond to various external factors, such as the environment and electricity needs. Repairing a defect in a turbine is a major undertaking that requires planning and resource management. As such, each turbine is equipped with a set of sensors that indicate the health of the turbine.

Though the sensor readings can be used to retrospectively investigate faults, the same sensors may provide advance notice of an upcoming fault. The objective of this project is to develop a fault detection algorithm using sensor readings that have been labelled from previous defects.

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

Contact: Prof. Lee, cglee@mie.utoronto.ca