Course 3: Detecting Machine Failure

Course Overview:

In this course, students use Python to apply unsupervised Machine Learning algorithms to unlabeled data to ascertain if anomalies are present in real-time streaming data being generated by a piece of industrial machinery. Students also query and analyze a Neo4J Graph Database to ascertain hidden relationships among a large set of chatbot data to better understand how chatbots and Natural Language Processing are used in AI.

Course Outline

This course will cover the following topics:

* Unsupervised Learning Concepts
* Clustering
  + K-Means Clustering
  + Hierarchical Clustering
  + Probabilistic Clustering
* Data Compression
  + Principal Component Analysis (PCA)
  + Singular-Value Decomposition (SVD)

Learning Outcomes

The Intelligence Factory (TIF) Unsupervised Machine Learning course is comprehensive course in understanding the key concepts and application in unsupervised learning such as clustering and dimension reductions. In addition, learners will apply these skills to relevant industry business situations.

Successful completion of this course entitles the student to The Intelligence Factory Skillset Certification in the following areas:

* Unsupervised Machine Learning

This course also provides you the skills and concepts needed to complete the TIF Certification One for a Machine Learning Engineer.

Duration

30 hours/ 5 weeks/ 6 hours per week/3 hours for two nights

Resources and Materials

* Access to Learning Lab software
* GitHub acct
* Slides and resources will be provided