# Industrial Internet of Things Data Analysis

Start Assignment

**Due** Oct 6 by 10am **Points** 20 **Submitting** a file upload **File Types** pdf
**Available** after Aug 24 at 12am

In this task, you will be given a dataset **(bathdata.xlsx** (https://canvas.auckland.ac.nz/courses/77560/files/9436617/download?download_frd=1) ) from a radio frequency identification (RFID) enabled smart manufacturing shop floor. The dataset includes thousands of data from daily operations using RFID technology in the manufacturing environment. There are nine columns:

- ID: auto-generated ID in SQL database.
- BatchMainID: representing a batch of products.
- UserID: indicating a specific worker.
- ProcCode: representing a typical process such as milling, drilling, etc.
- ProcSeqnum: indicating the sequence of the process.
- Quantity: the total pieces in a batch.
- Good Number: Quantity after inspection.
- Time: a timestamp reflecting the finished time of a process.
- Location: representing a specific machine.

You are expected to analyze the given dataset to find important manufacturing-related insights that may be useful for the factory manager. You can use different analytic tools, such as statistical approaches, data mining models, machine learning algorithms, etc., to process and analyze the dataset.

Your report should have a maximum length of 3500 words (excluding the title page and references). The font should be Arial, and the font size is 11 pt. The report may be made up of the following sections: Title Page. Executive Summary, Main Body, Discussion and Conclusions, and References.

A sample template that may be used is here: **https://www.overleaf.com/latex/templates/imperial-college-london-dept-of-materials-materials-characterisation-exercise-template/grtxttnbrskb (https://www.overleaf.com/latex/templates/imperial-college-london-dept-of-materials-materials-characterisation-exercise-template/grtxttnbrskb)**

Expectations: Clarity, professional structure, accurate and clear analysis, excellent English expression, technical accuracy, conciseness and completeness, use of relevant references if needed.

**Assignment 2 Rubric**

| Criteria | Ratings | | Pts |
|---|---|---|---|
| Accurate understanding of data | **3 to >0.0 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 3 pts |
| Accurate analysis of data using proper analysis skills | **4 to >0.0 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 4 pts |
| Clear and useful insights | **5 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 5 pts |
| Professional visualisation of data analysis outcomes | **3 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 3 pts |
| Clean and professional writing | **3 to >0.0 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 3 pts |
| Format/Presentation | **2 pts**<br>**Full Marks** | **0 pts**<br>**No Marks** | 2 pts |
| | | | Total Points: 20 |