**PROJECT STATEMENT:**

The main aim of the project is to predict degradation trends by studying their effects on the engine measurable parameters such as the temperature and pressure at critical points of a gas turbine engine and to propose a suitable maintenance policy using decision tree modeling.

• **What data you have chosen, including a link to where you found the data?**

<https://archive.ics.uci.edu/ml/datasets/Condition+Based+Maintenance+of+Naval+Propulsion+Plants>

• **How many rows and how many columns are in the dataset?**

The data is unprocessed with ~12,000 records and 16 attributes.

• **What you plan to predict from the data?**

The objective of this project is to:

* Timing: How much time does the equipment have left until it fails?
* Probability: What is the probability of failure in (x) number of days or weeks?
* Cause: What is the likely cause of a given failure?
* Risk-level ranking: What equipment has the highest risk of failure?
* Maintenance recommendation: Given a certain error code and other conditions, what maintenance activity is most likely to solve the problem?

• **What business value there might be from your findings and prediction.**

* + Foresight and minimization of asset downtime (Reduced Maintenance time).
  + Informed condition-based maintenance planning
  + Aid in reducing the overall expenses of the impact of maintenance.
  + Increased Efficiency.

**Keywords**:

life cycle management, maintenance decision making, prognostics