

A STUDY ON REMAINING USEFUL LIFE(RUL) PREDICTION OF AN AIRCRAFT ENGINE USING MACHINE LEARNING

¹S. SOWMYA BHARATHI, ²Dr.P.VIJAYLAKSHMI, ³P. GAJALAKSHMI,
⁴KRANTHI .E

¹PG Student, ^{2,3}Assistant Professor, ⁴ Student

^{1,2}Department of Mathematics, ³Department of Software Engineering, ⁴Mechanical
Engineering

^{1,2} Periyar Maniammai Institute of Science & Technology, Thanjavur-613 403,
Tamilnadu, India

³CVRDE , AVADI

⁴Vellore Institute of Technology, Chennai Campus

Email: sowmyabharathi99@gmail.com, easwarkranthi@gmail.com.

Abstract

In this study we are mainly focused on predicting the Remaining useful life (RUL) of a Turbofan aircraft engine and the accuracy of the aircraft engine – Accuracy tells us the Performance of the engine. To ensure flight safety and reduce the cost of maintenance during aircraft engine Performance, a prognostics and health management scheme that focuses on flaw diagnosis, health assessment, and remaining life prediction is introduced to solve the problem. So, we are going to determine these parameters using Machine Learning with the help of Regression Analysis approach. We are going to use several Regression approaches and compare the Remaining Useful life and the accuracy with each of the approach and comment on the best Regression approach being used. We are going to work on Anaconda and Jupyter Notebook platform where we will implement the source code in Python. Finally, we would have a RUL value that would assign the health score to that engine

Keywords: Turbofan engine, Regression, Machine learning, Anaconda, Jupyter Notebook