Graduate Certificate in Artificial Intelligence with Machine Learning
AIGC 5002 - Machine Learning and Deep Learning
Fall 2023

Assignment 3: Large-scale Wave Energy Farm Optimization Through ML

November 24, 2023

Due on: December 5, 2023 at 11:59 PM

Plagiarism and the use of any form of generative AI will result in a zero grade for this assignment, at the least. Please always cite your sources.

Submission guidelines:

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For this assignment, you will need to submit 1 Jupyter notebook as a PDF file. No other formats will be accepted.
Name the PDF as follows: firstname_lastname_Assignment3.pdf
Go to the course Blackboard → Assignments folder → Assignment 3 → and submit the pdf.

Question 1: ANNs with TensorFlow (10 marks)

An extensive Wave Energy Converters (WEC) dataset that includes hundreds of features and total farm power output is available through the UCI Machine Learning Repository LINK. The link has a detailed explanation about the dataset and the problem at hand. Our goal is to predict the total farm power. Read the dataset description carefully and with TensorFlow and Keras design an ANN model (Following the ML pipeline and flow we covered in Lecture 10) to predict the total farm power. Design one more ANN model that has 3 of the hyperparameters changed then compare the performance of both models.

(USE ONLY THE WEC_SYDNEY_100.CSV File).

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