Applied Math Seminar

Generating Heat Maps for Turbulence - Imputing turbulence readings through spatio-temporal weighting

Speaker: Mr. Joel Williams
School of Mathematical and Statistical Sciences, UTRGV

Abstract

This presentation introduces a novel method for addressing the challenge of predicting accurate clear-air turbulence. While planes can directly measure the Eddy Dissipation Rate (EDR), a crucial indicator of turbulence, our approach makes the data accessible over a large scale by processing observations from multiple flights. We generate EDR heat maps by applying spatio-temporal weighting to impute turbulence readings. The validation of our model using K-Fold cross-validation yields promising results. This innovative approach can potentially advance aviation safety by providing pilots with precise mappings of the invisible danger around them.

Time: 3:30-4:30 pm
Date: October 19, 2023
Location: EMAGC 2.206.

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