Matthew Kastl

Title:

IMPROVING OPERATIONAL OCEANOGRAPHIC MODELS WITH GENERATIVE ADVERSARIAL NETWORKS

Abstract:

Accurate tidal and surge probabilistic forecasting is necessary for safety, commerce, and climate resilience. The use of Neural Networks has made substantial progress in this domain but can still suffer from inaccuracy and unstable real-time data. This thesis explores the application of Generative Adversarial Network architectures to improve operational oceanographic probabilistic forecasting. Leveraging the strength of adversarial training, this work aims to reduce model uncertainty and provide context driven data cleaning to operational models.