



The project predicts TSA claim frequency, severity, type, and resolution time using an AI pipeline that combines feature learning, probabilistic modeling, and survival analysis for accurate and interpretable results.

## Challenges

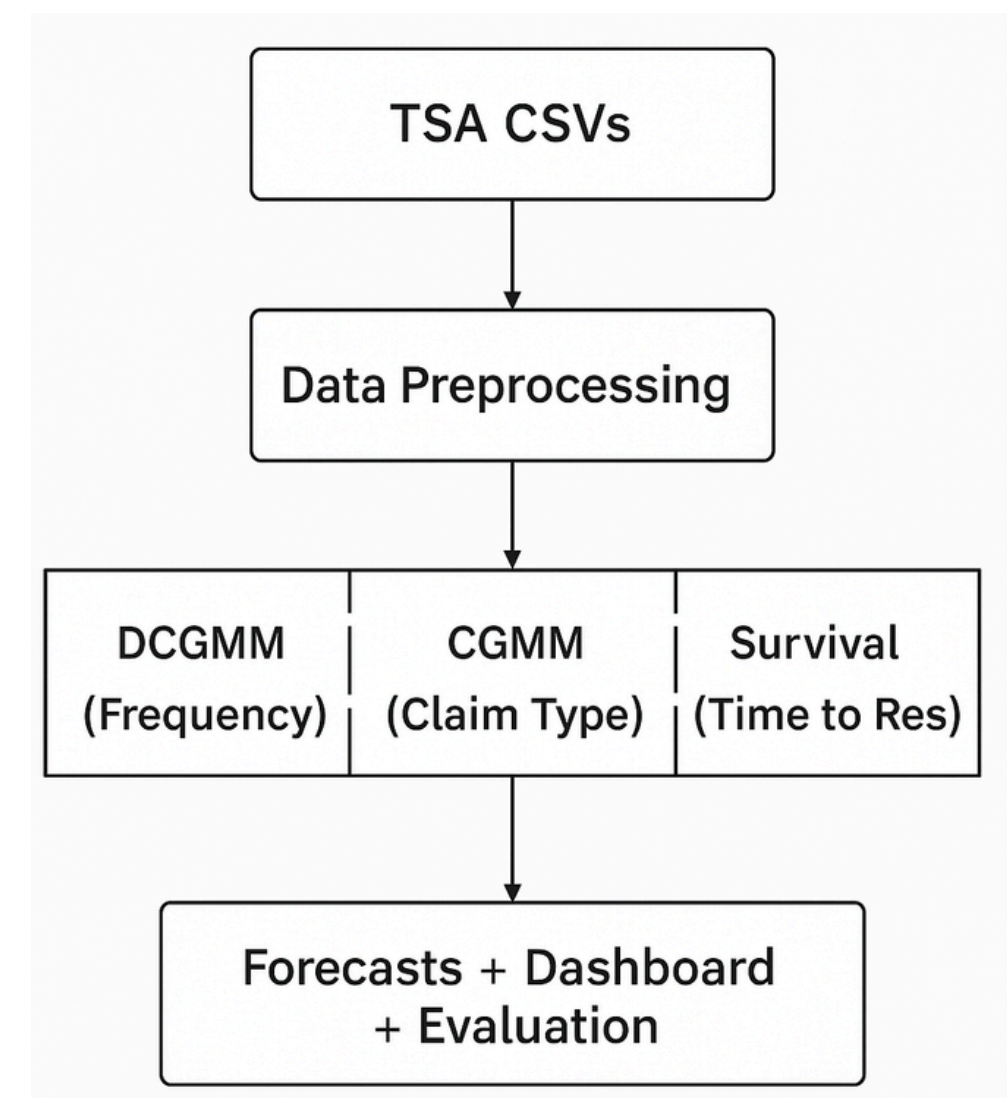
- Unstructured and skewed TSA claim data across multiple airports.
- Multi-output forecasting (count, cost, category, duration).

## Solutions

- SeqOAE to extract orthogonal latent features from historical and contextual claim data.
- DCGMM for unsupervised learning of frequency and severity distributions.
- CGMM for classifying claim types (e.g., theft, damage, injury).
- Survival analysis (CoxPH, DeepSurv) to predict time-to-resolution of claims.
- Feature transformations: log-scale, min-max scaling, embedding integration.

# AeroClaim

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## Outcome

A modular AI pipeline that accurately predicts TSA claim trends and resolution times, offering clear, airport-wise insights.