Storm Damage Prediction Report

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Dataset Summary

Total observations: 52259
Train/Validation/Test split: 36581/7839/7839
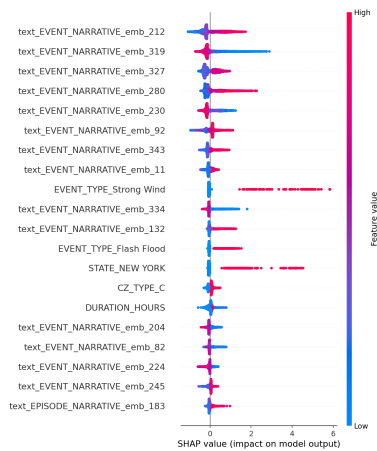
Model Selection (Optuna)

(Optuna section error: No columns to parse from file)

Final Test Metrics (Test set)

damage_property — MAE: 159623.6657808862, RMSE: 5866605.368769997, R2: -2.4897095705966876e-05
damage_crops — MAE: 29637.710130472118, RMSE: 694635.3386348014, R2: 0.6166284490189127

Top Feature Importances

text_EVENT_NARRATIVE_emb_212: 0.405229
text_EVENT_NARRATIVE_emb_319: 0.275476
text_EVENT_NARRATIVE_emb_327: 0.274886
text_EVENT_NARRATIVE_emb_280: 0.259765
text_EVENT_NARRATIVE_emb_230: 0.251132
text_EVENT_NARRATIVE_emb_92: 0.18806
text_EVENT_NARRATIVE_emb_343: 0.153502
text_EVENT_NARRATIVE_emb_11: 0.11521
EVENT_TYPE_Strong Wind: 0.108249
text_EVENT_NARRATIVE_emb_334: 0.108057

Executive Summary

Key drivers include event duration, event type, severity proxies (injuries/deaths), and text-de