

Driving Revenue and Safety



Predictive modelling and pipeline developments to enhance operations efficiency



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Context

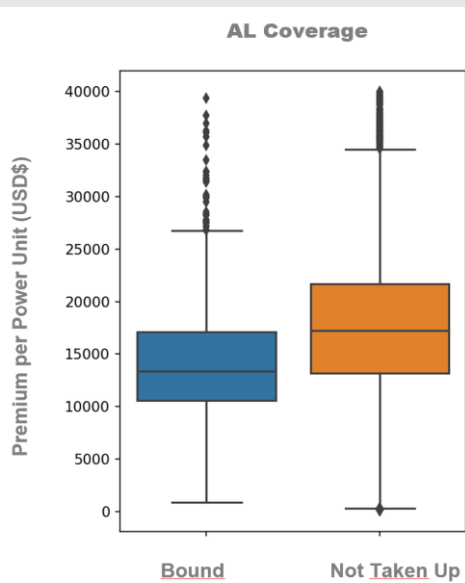
Cover Whale provides insurance to commercial trucking customers, acting as an intermediary between Insurance agents and Insurance carriers. We have helped them both on the revenue and on the loss control side.



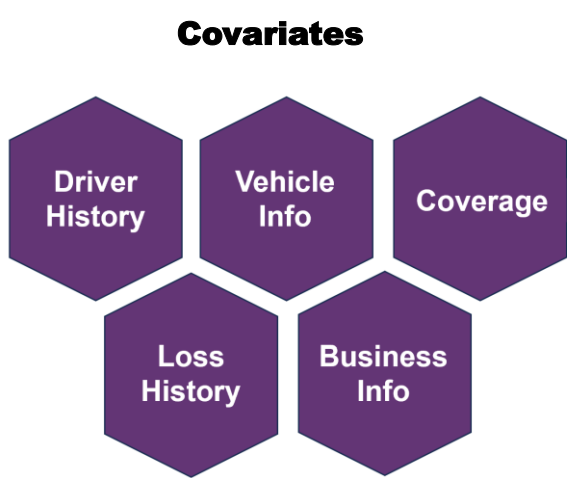
Predictive Modeling

1. Objective

Predicting the likelihood of bind, given customer information and the emitted quote, to maximize Hit Ratio

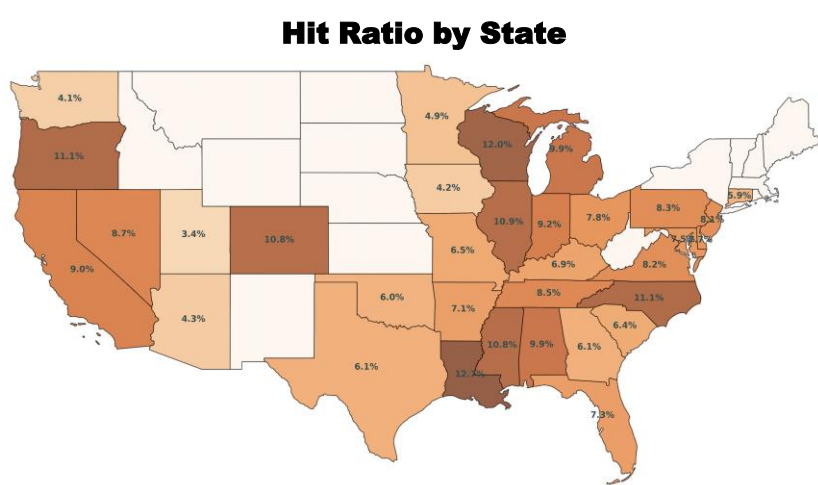


2. Data

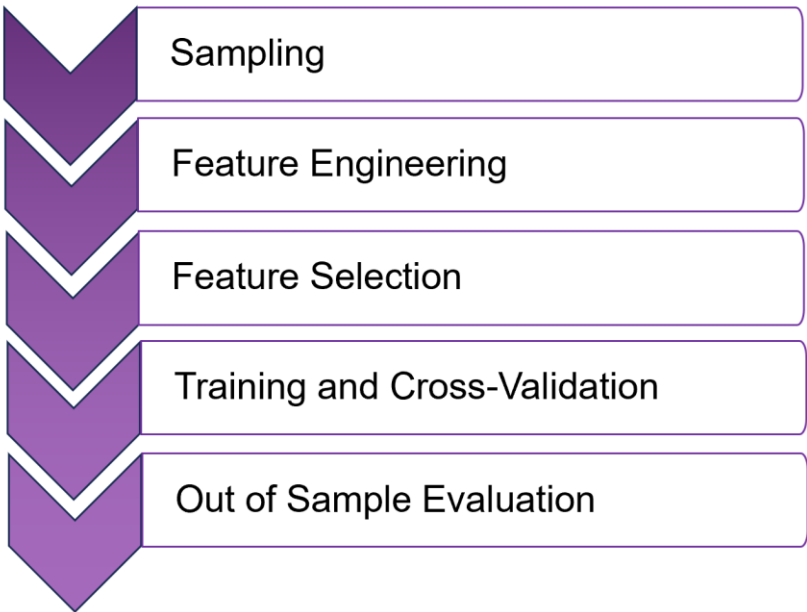


Target

Submission Status	Value	Balance	# Submissions
	Not Accepted	80%	130k
	Accepted	20%	30k



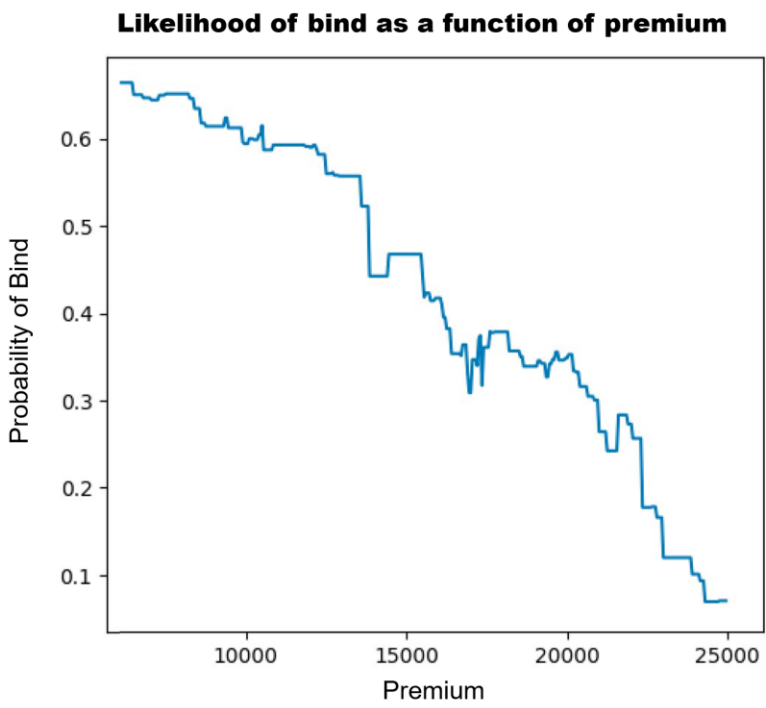
3. Methodology



4. Results

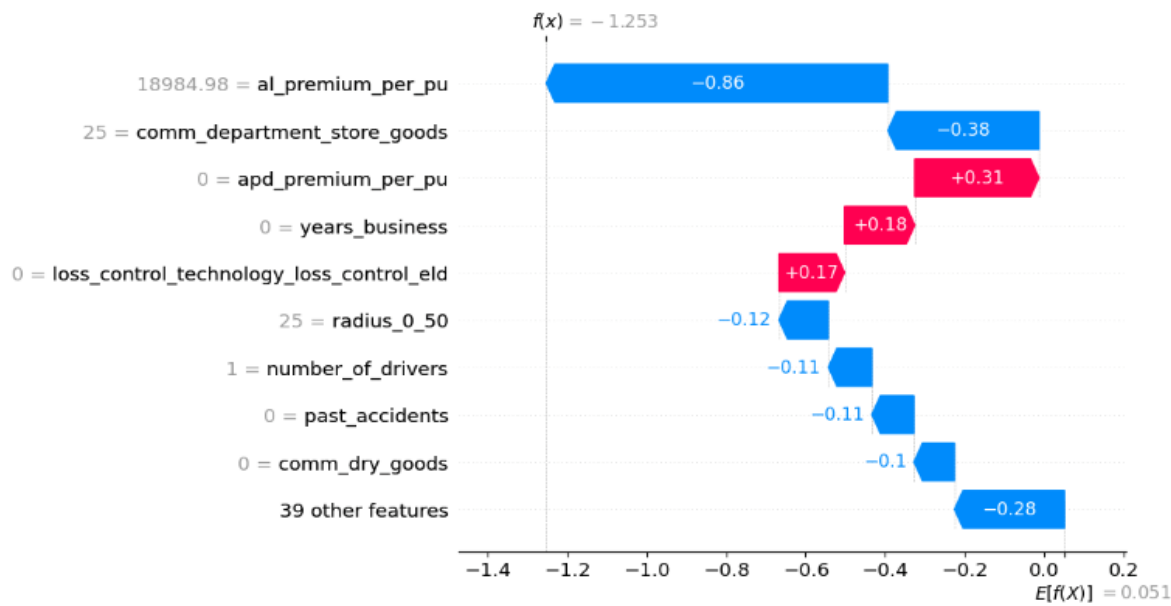
XGBoost outperforms traditional methods

Model	Test AUC	Test Accuracy
Logistic Reg.	0.79	76 %
CART	0.79	78 %
XGBoost	0.85	84%
Random Forest	0.82	80%



5. Explainability

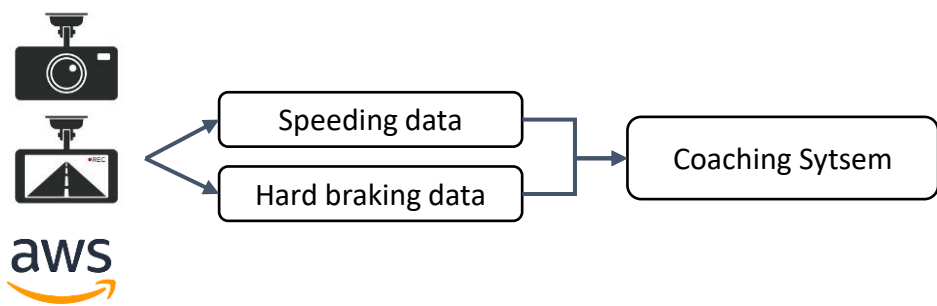
SHAP values explain influence of features on predictions



Enabling Driver Coaching Through Pipelines Development

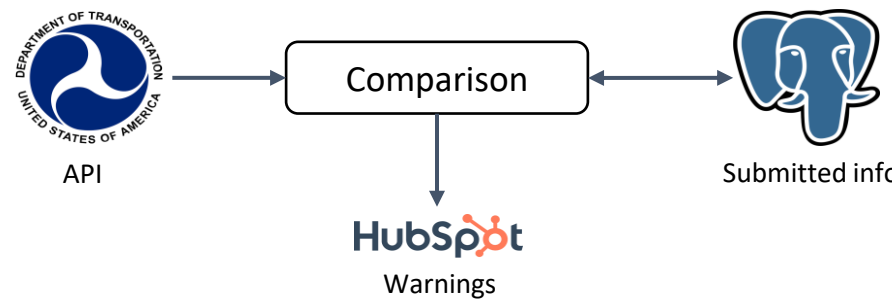
Dash Cam Data Ingestion

Data coming from Dash Cam vendors needs to be ingested and aggregated at vehicle level, enabling personalized coaching



Validating Fraudulent Submissions

Validating information submitted by the customer with the official DOT database enables for quick fraud detection and response. Warnings are sent to customers when a discrepancy is found.



Business Implications

Outcome



3.5k potentially fraudulent submissions were identified by comparing with the official records



20k speeding events per day are now ingested in Cover Whale's data warehouse



We deployed all our products within the production environment of the company, enabling for scheduled running of pipelines

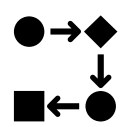


"Drivesmart, both operationally and analytically, is the critical cornerstone of the Cover Whale strategy"
– Darien Acosta, Chief AI Officer

Future Work



Develop predictive modeling to assess dangerous driver patterns



Send **automated coaching** communications based on driving behaviors and information discrepancies