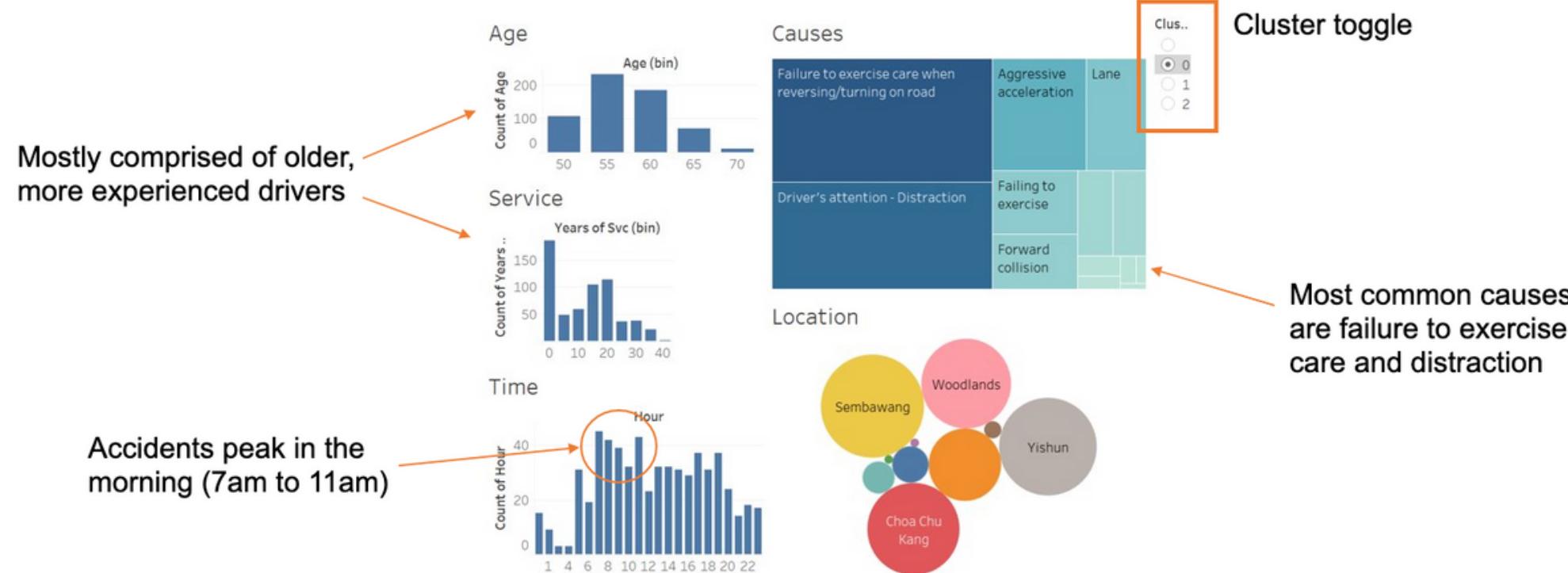




## PROJECT OVERVIEW



### CLUSTERING ANALYSIS



### REGRESSION & ENSEMBLE METHODS

We used the Cox proportional hazards model, as this model accounts for censoring and models the hazard function and allows for the inclusion of covariates that may affect the hazard function, while also accounting for the non-linear relationship between these covariates and the hazard function over a period of time.

	exp(coef)	se(coef)	z	Pr(> z )
age	0.92635728457	0.00916052006	-8.351	< 0.0000000000000002
route.exp	0.96057404447	0.01403948981	-2.865	0.004169
aggressive_acceleration	0.06149799255	0.73304434361	-3.804	0.000142
proper_control_fail	0.99194048059	0.48155544722	-0.017	0.986593
reversing_turning_fail	0.02905374765	0.72955146309	-4.850	0.00000123
distraction	0.53479820777	0.22687705636	-2.759	0.005805
lane_departure	0.00000001224	2828.20820533589	-0.006	0.994860
forward_collision	1.16689048829	0.27179197783	0.568	0.570123
entering_parking_fail	0.00000001269	2610.26950567220	-0.007	0.994442
door_fail	2.05095365932	0.26714932472	2.689	0.007171
pedestrian_collision	10.14760373985	0.76316303966	3.036	0.002395
hand_brake_fail	0.64618891504	0.48279366673	-0.904	0.365756
drowsiness	0.77594056585	0.73699405404	-0.344	0.730690

With the Cox proportional hazards regression model in mind, we decided to explore even further using various ensemble models. Ensemble models refer to those using the machine learning approach to aid in the prediction process. They are used to overcome various challenges such as to (1) reduce the variance of inputs, especially within a noisy dataset (i.e. the presence of outliers), and (2) to also improve the accuracy of a model through the use of various other models. The use of the multiple models allowed us to compare the significant variables which contributed to the allocation of weightage for the variables in the proposed development of our finalised EVCo driver safety scoring framework

### TABLEAU FOR DRIVERS ANALYSIS & DRIVER SAFETY SCOREBOARD



By toggling the filters and buttons on various dashboards, the user is able to focus on what they want to analyse conveniently and gain insights within a click. Our driver safety scoreboard allows the user to identify high risk driving behaviour and come up with suitable intervention points.