

IBQ_R 2022

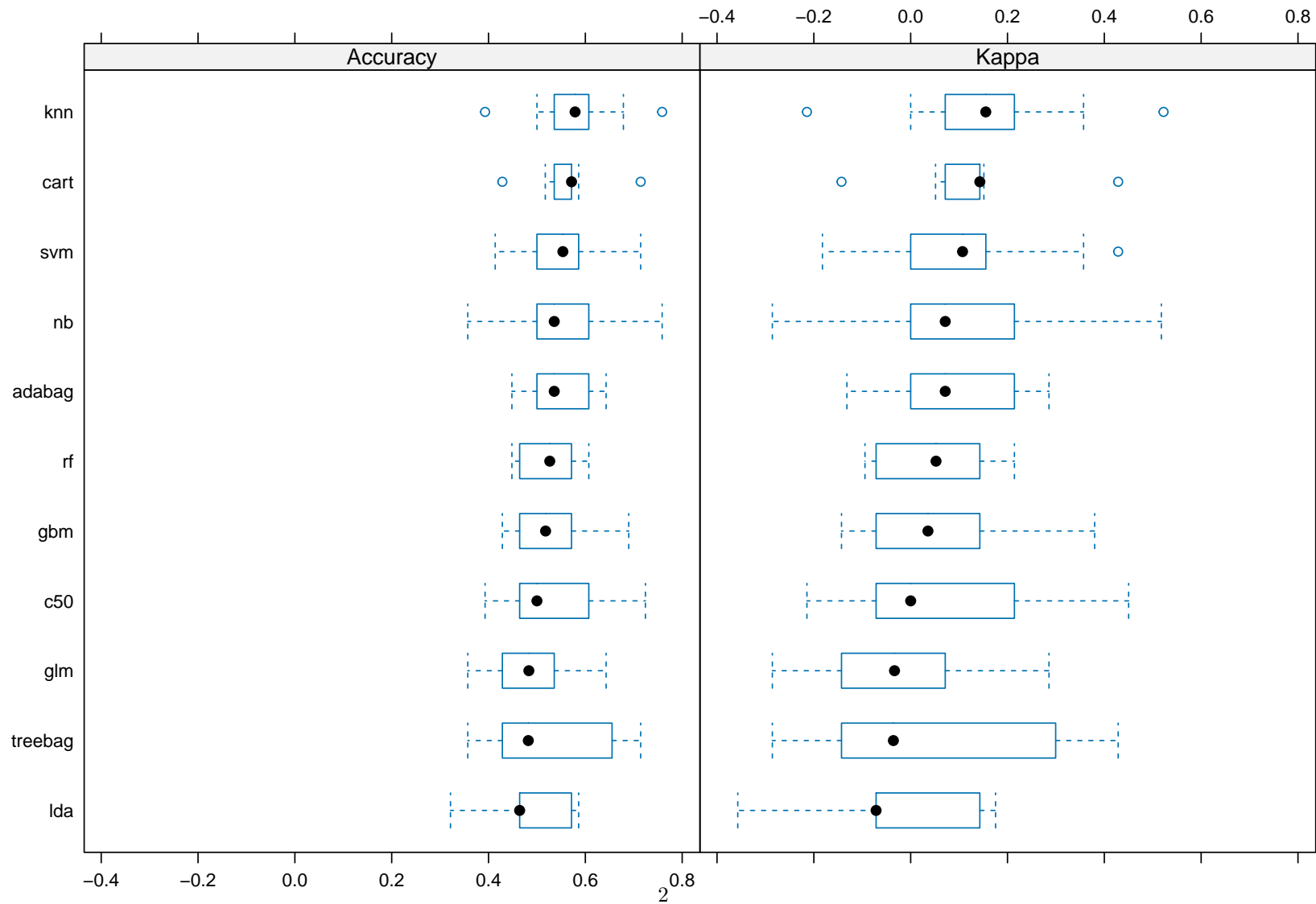
Masha Gartstein, Erich Seamon

10/25/2022

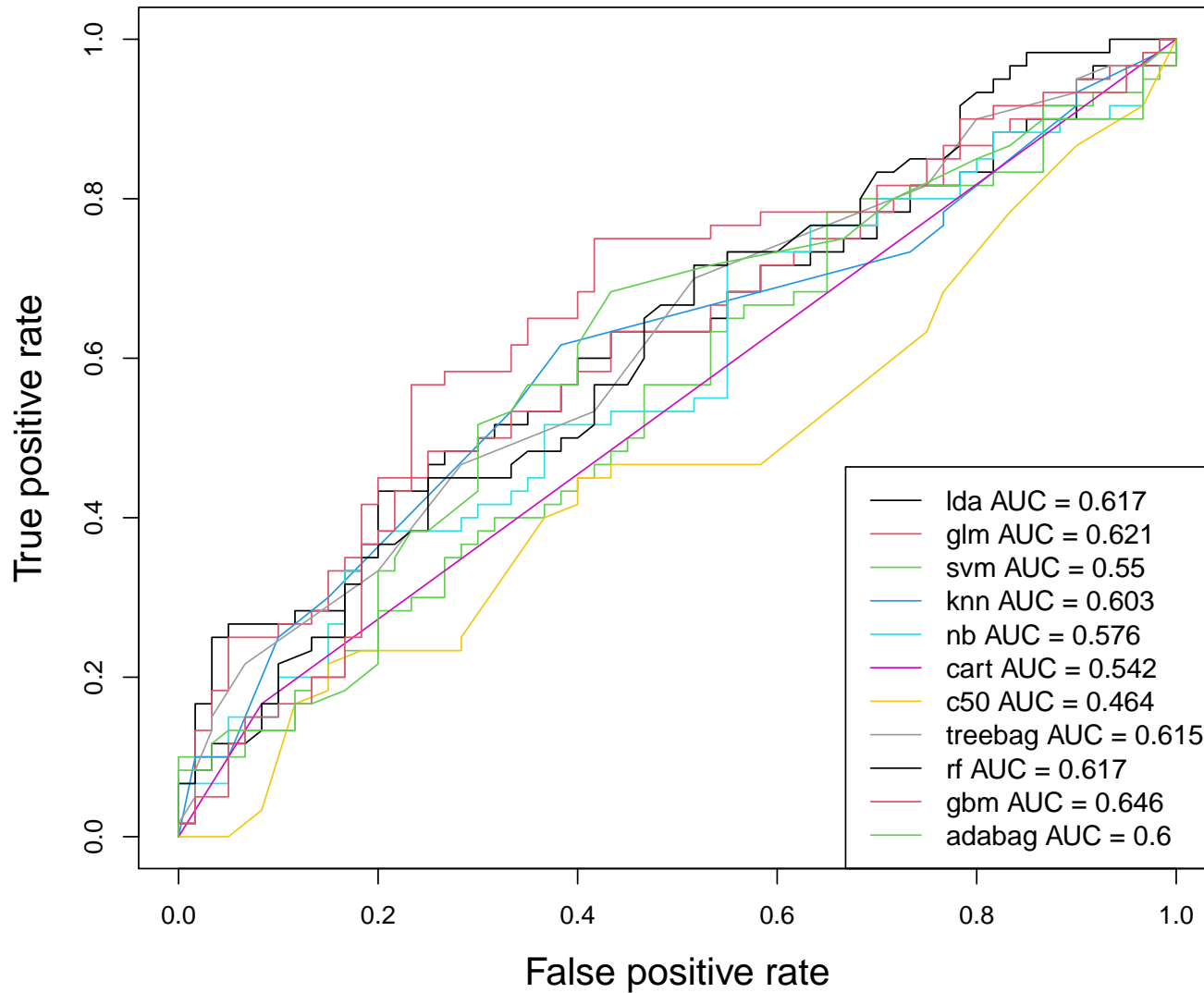
Exploratory Data Analysis

Model Development and Output: Chronological Age Group VS. Pre-Term Group - ALL VARIABLES

Model Accuracy Estimates: Chronological Age Group VS. Pre-Term Group – All Variables

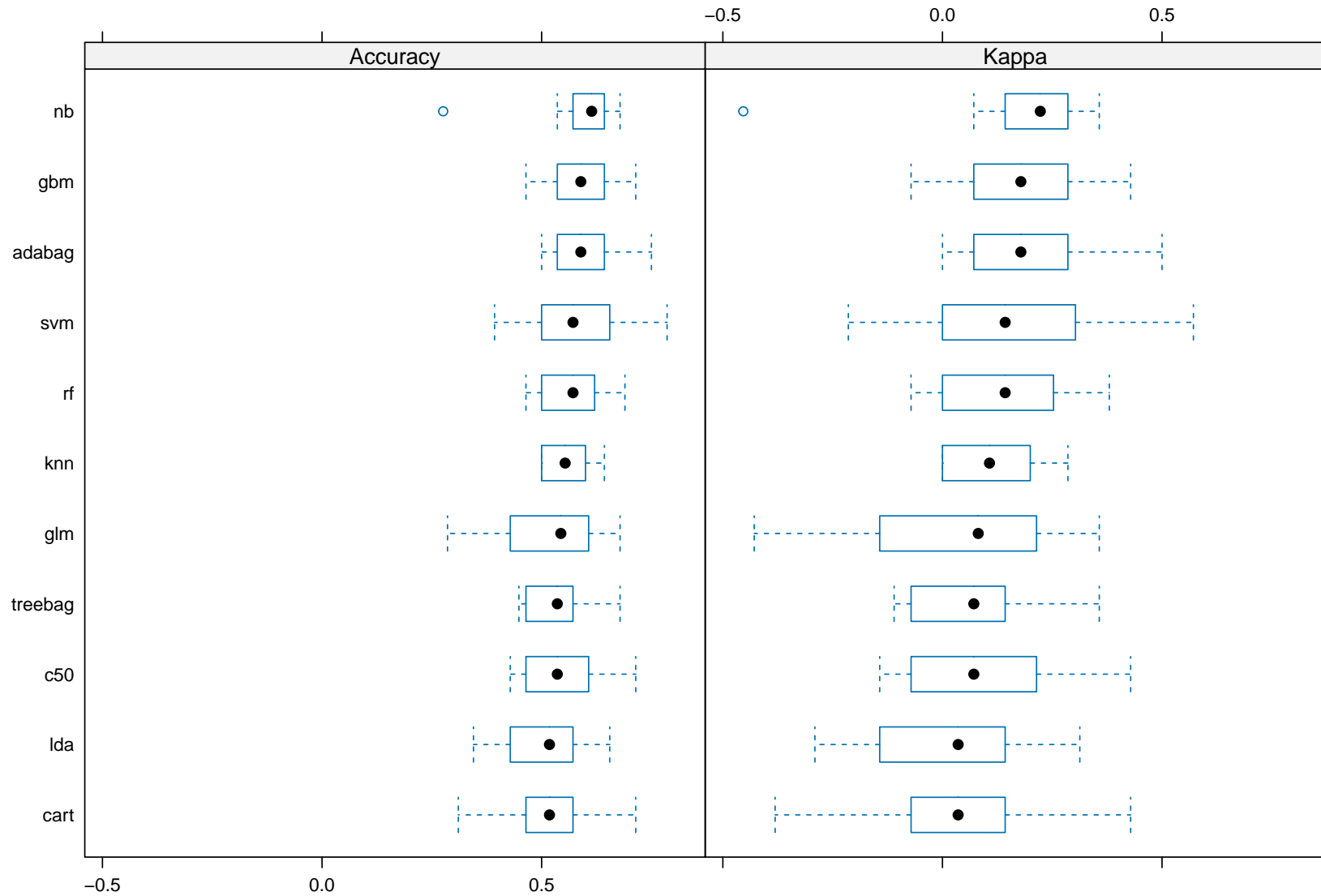


ROC Curve: Control Group One VS. Experimental – All Variables

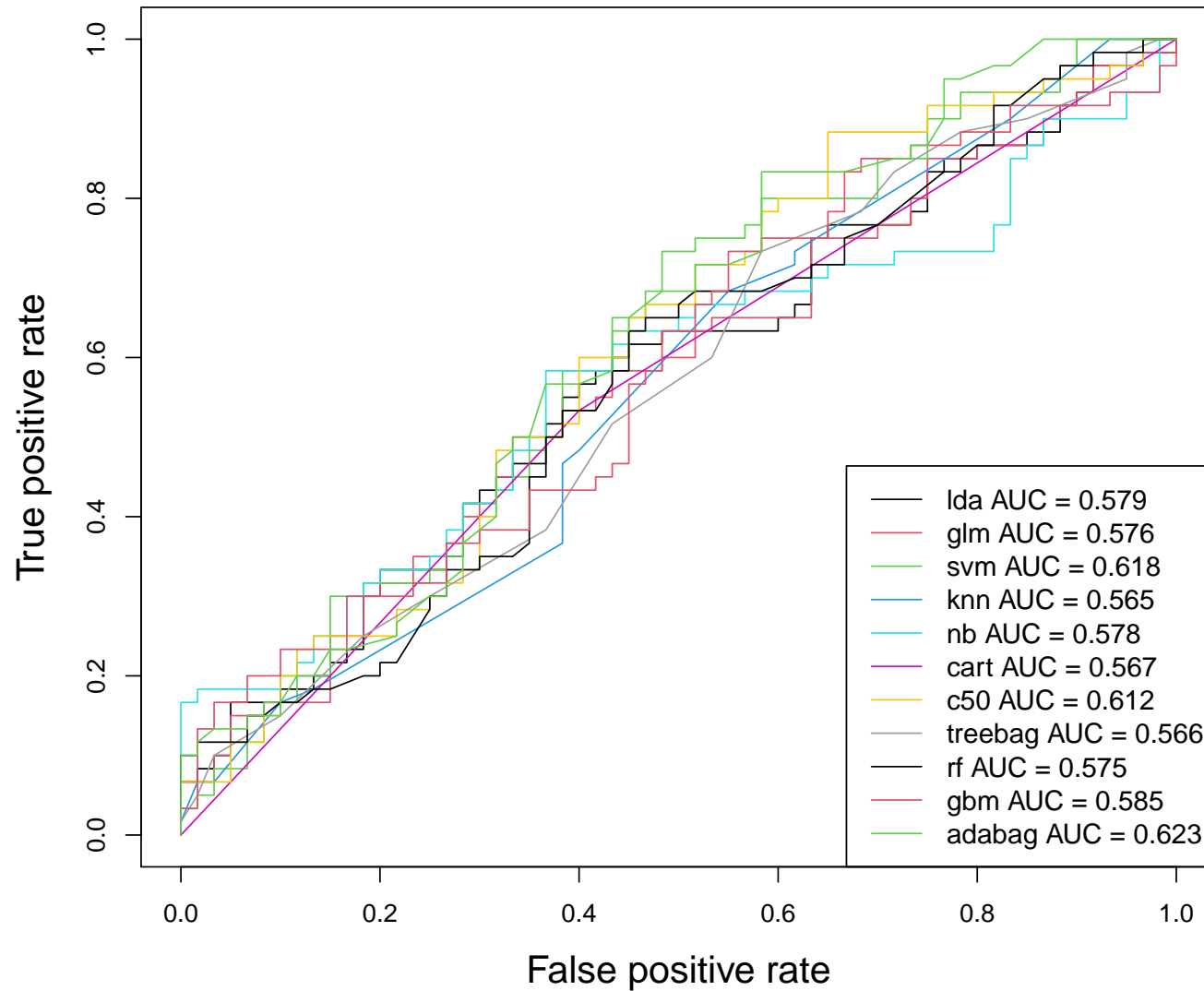


Model Development and Output: Adjusted Age Group VS. Pre-Term Group - ALL VARIABLES

Model Accuracy Estimates: Adjusted Age Group VS. Pre-Term Group – All Variables

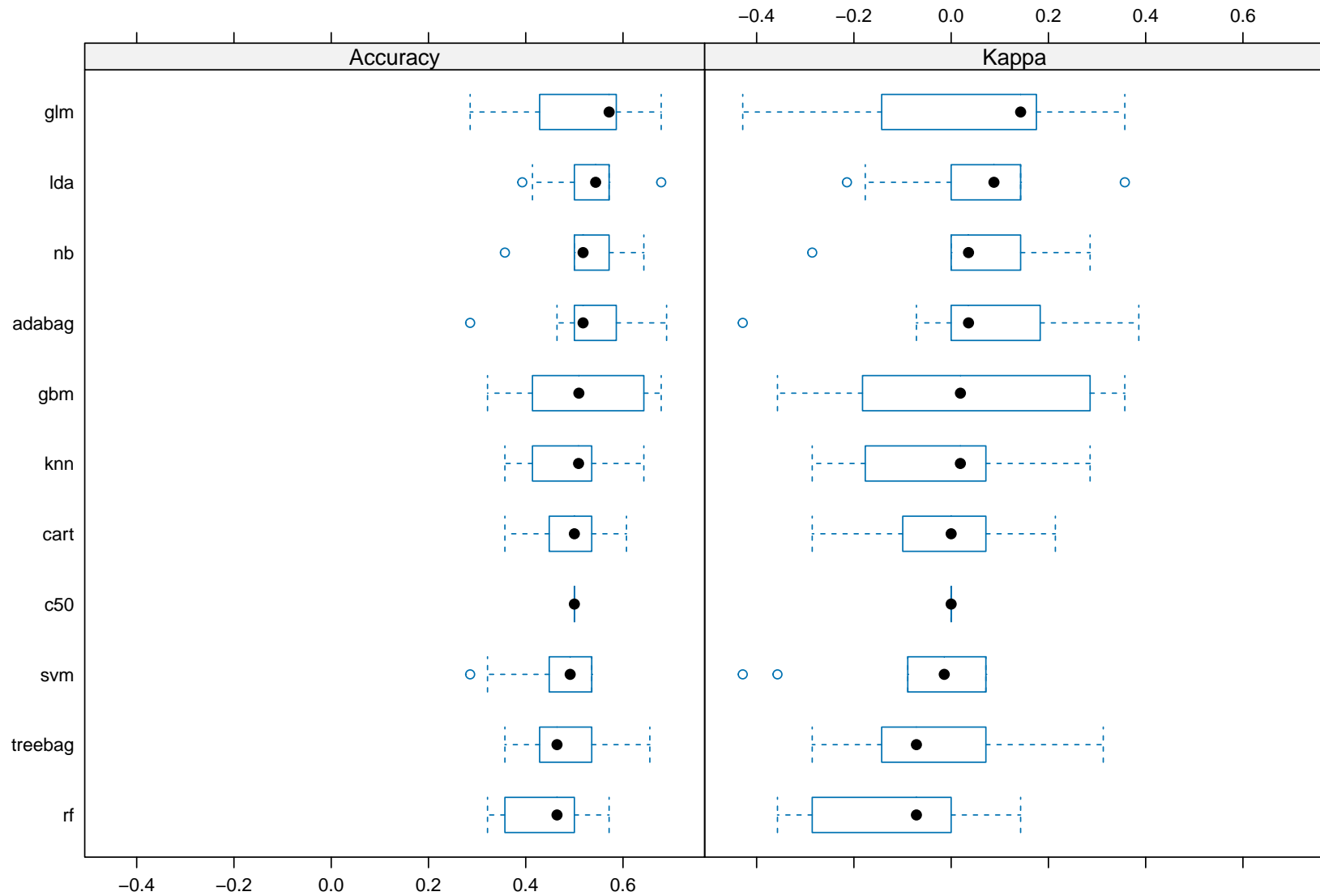


ROC Curve: Adjusted Age Group VS. Pre-Term Group – All Variables

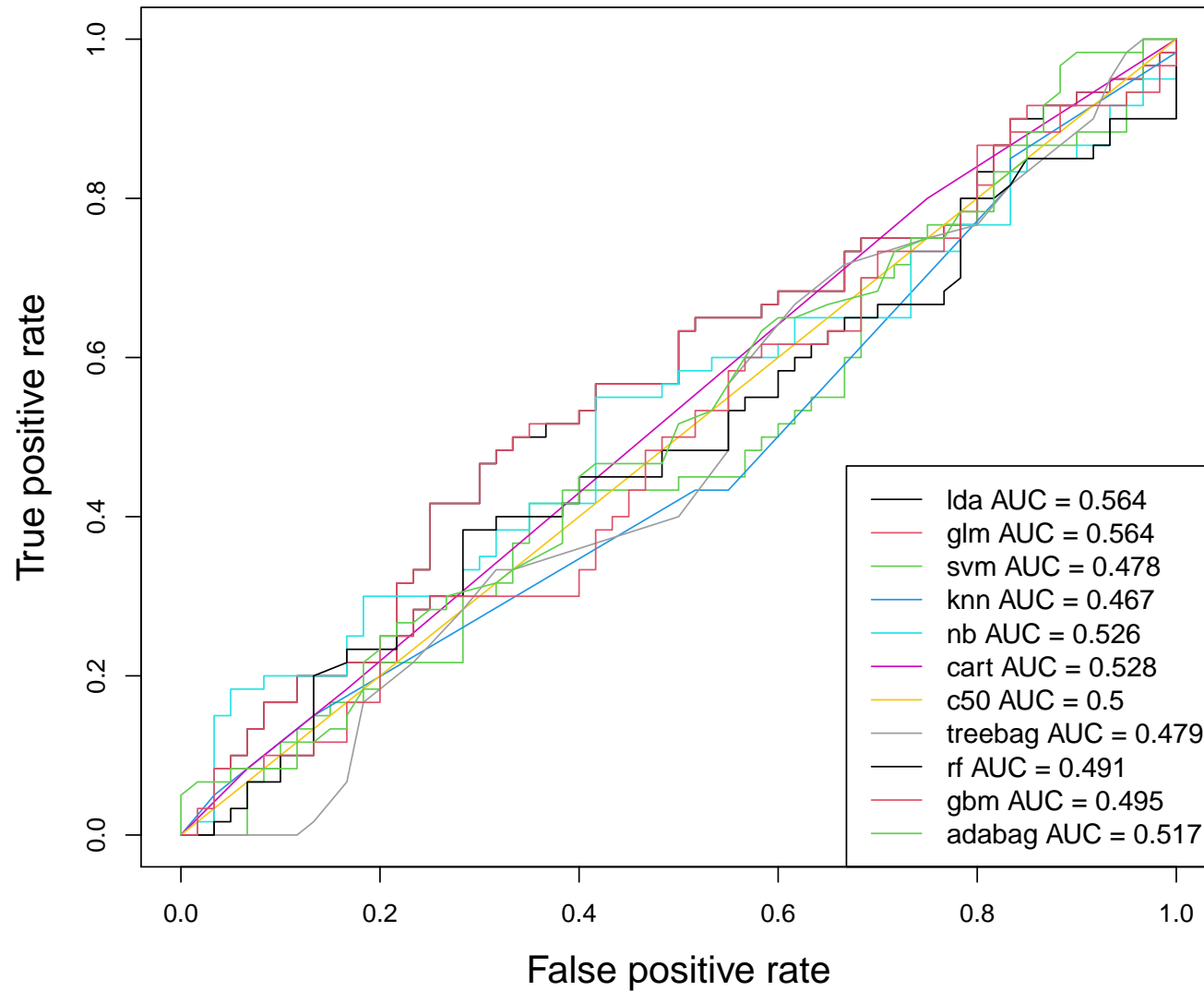


Model Development and Output: Chronological Age Group VS. Pre-Term Group - TRANSFORMED VARIABLES

Model Accuracy Estimates: Chronological Age Group VS. Pre-Term Group – Transformed Variables

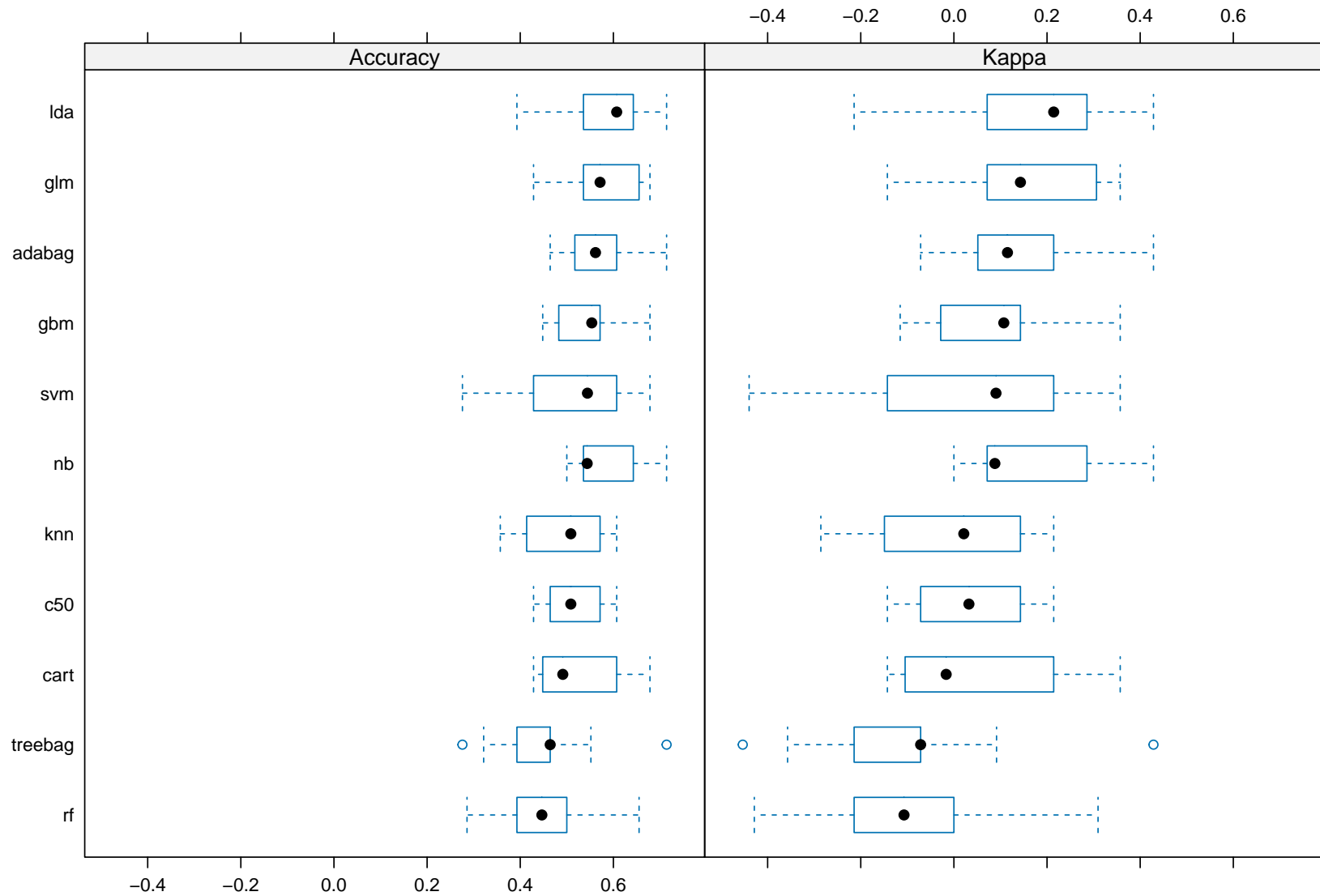


Curve: Chronological Age Group VS. Pre-Term Group – Transformed Variables

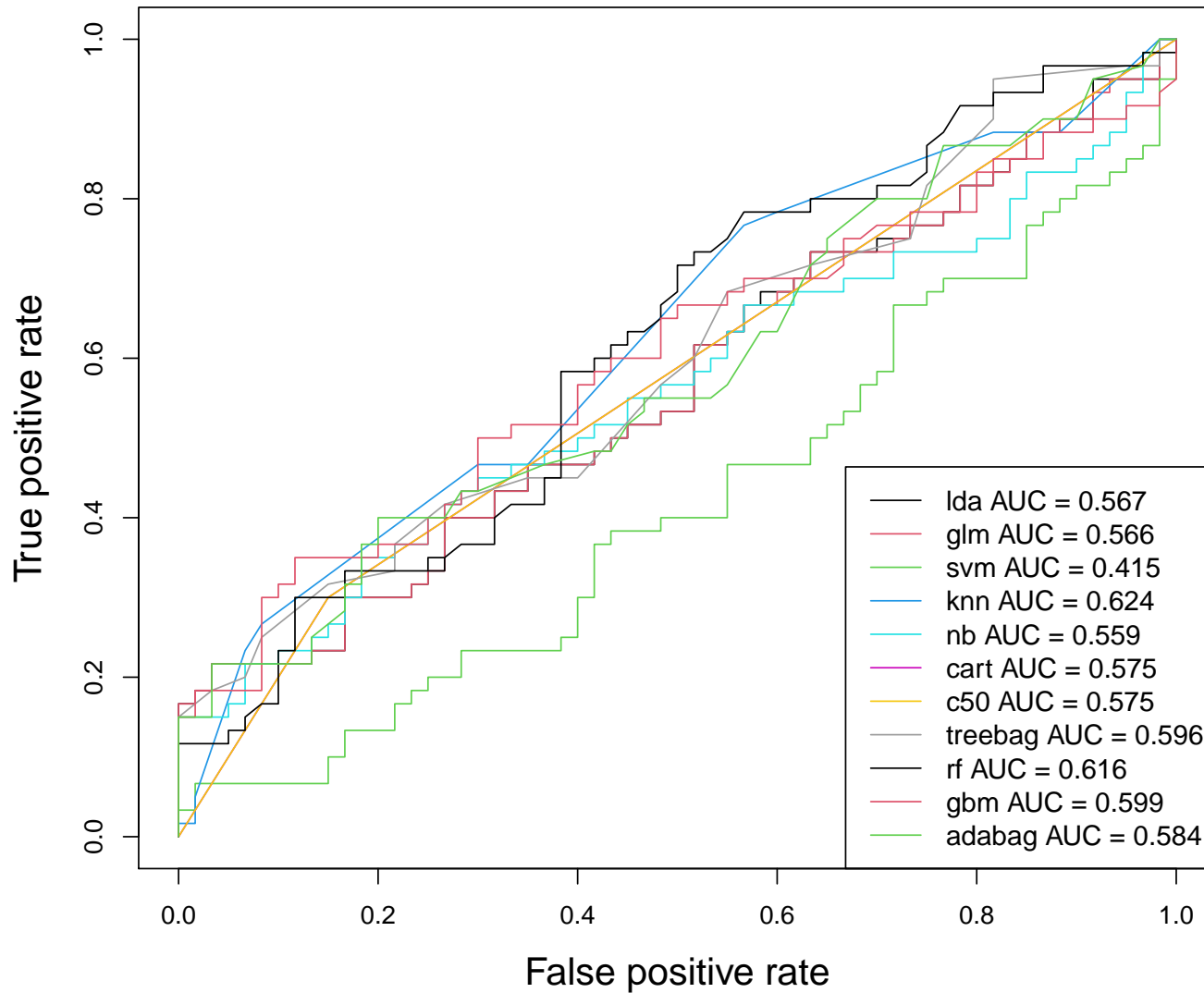


Model Development and Output: Adjusted Age Group VS. Pre-Term Group - TRANSFORMED VARIABLES

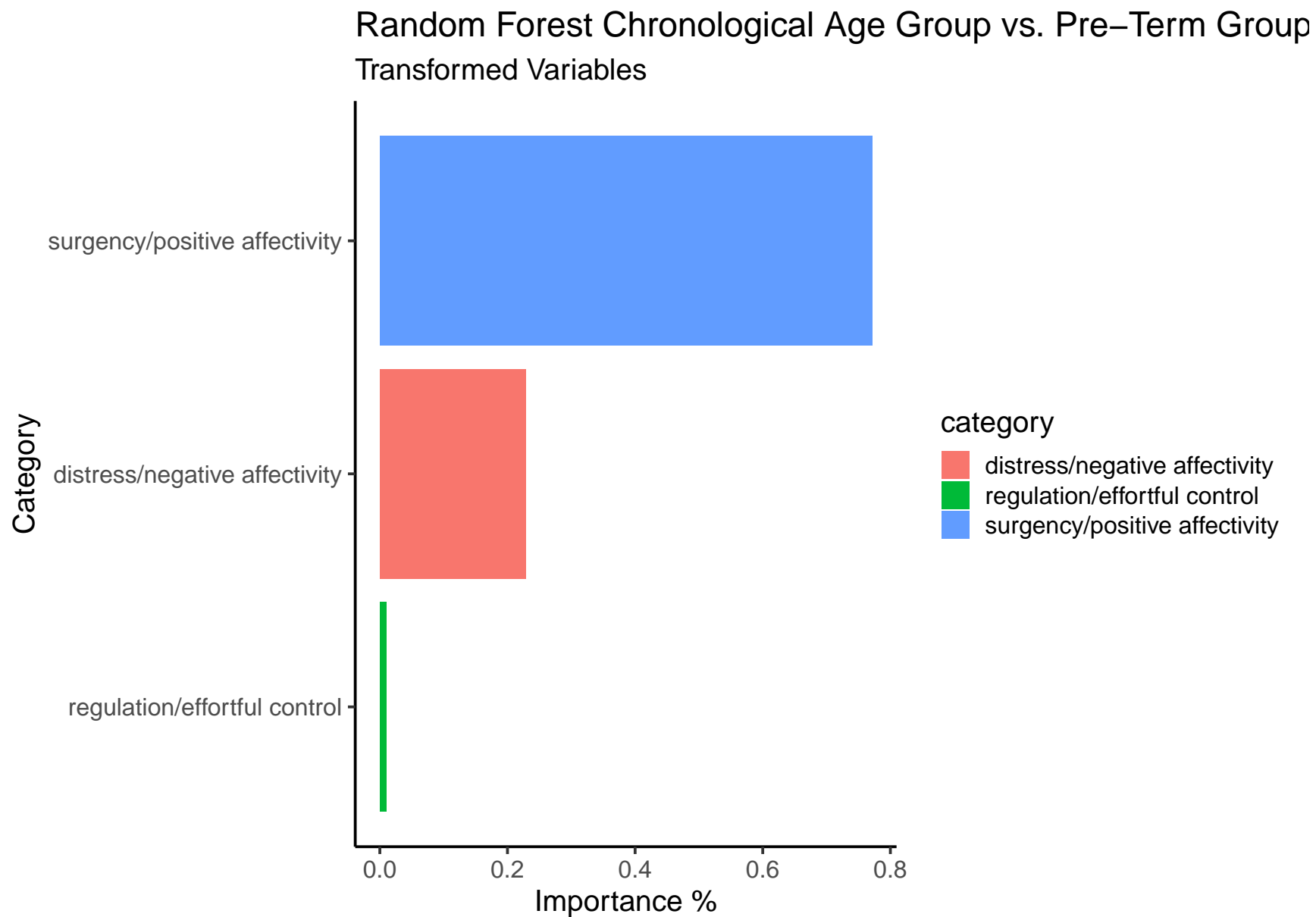
Model Accuracy Estimates: Adjusted Age Group VS. Pre-Term Group – Transformed Variables



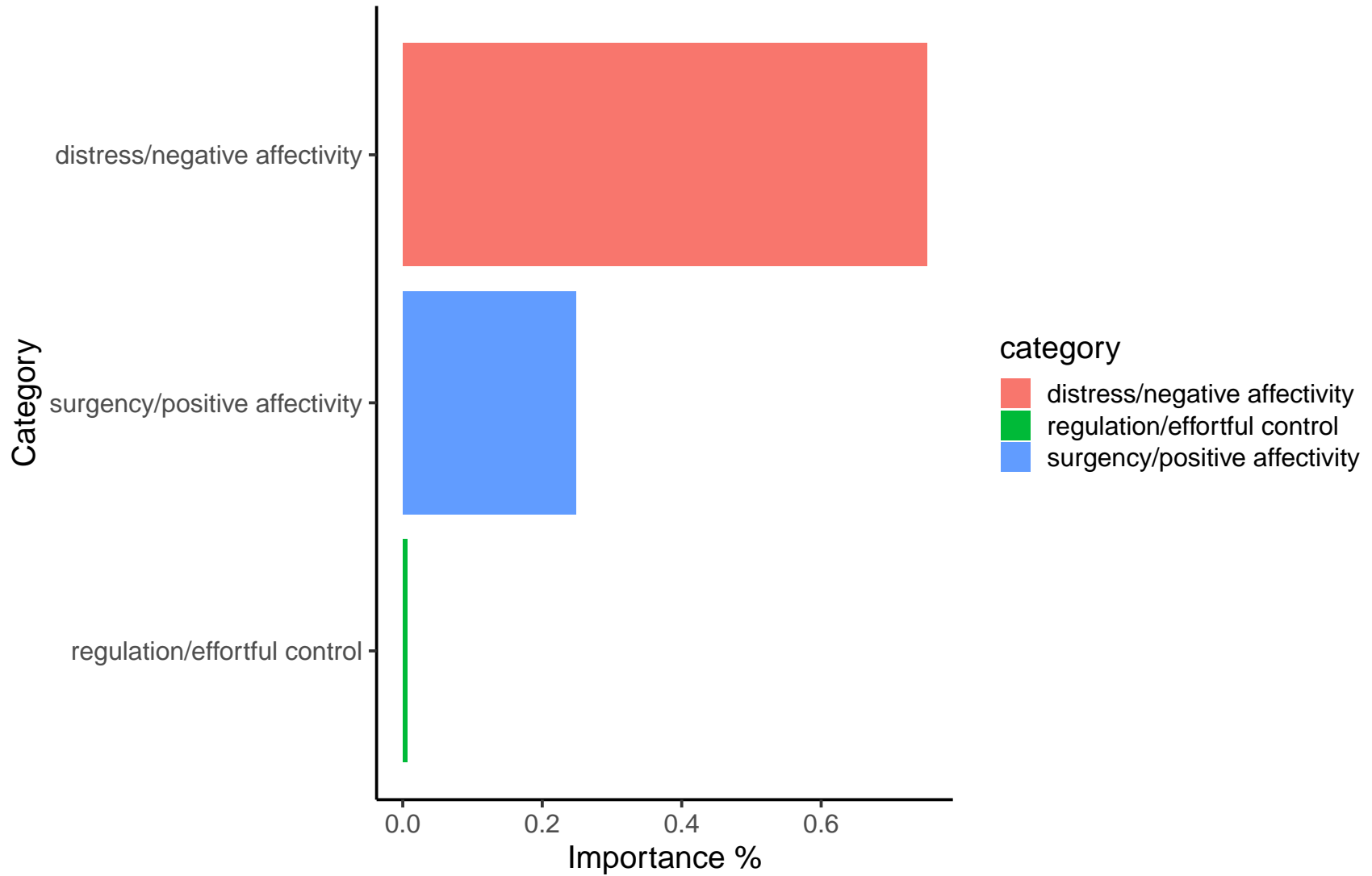
ROC Curve: Adjusted Age Group VS. Pre-Term Group – Transformed Variables



Feature Importance - Random Forest Model Results: Transformed Variables

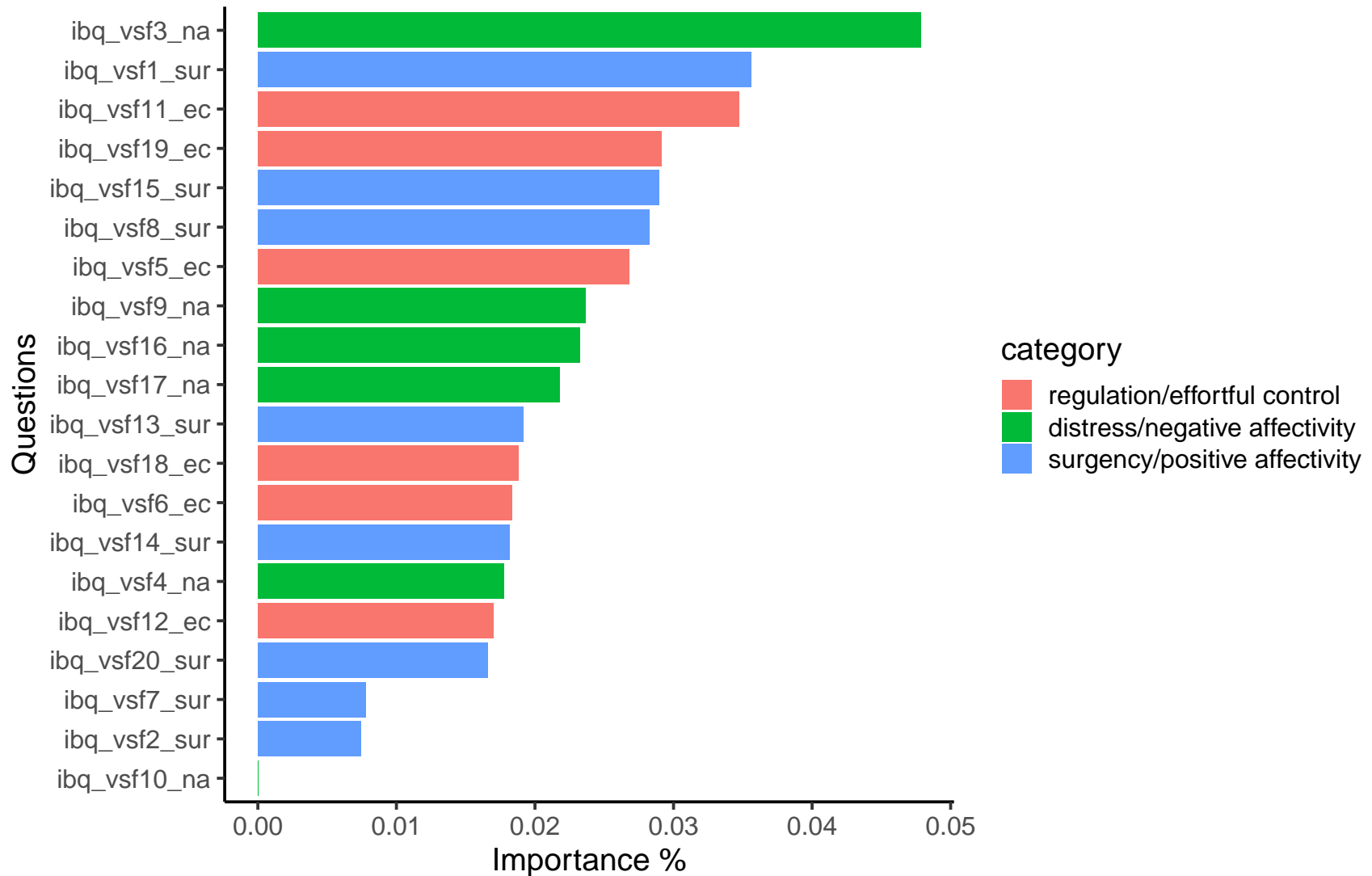


Random Forest Adjusted Age Group vs. Pre-Term Group Transformed Variables



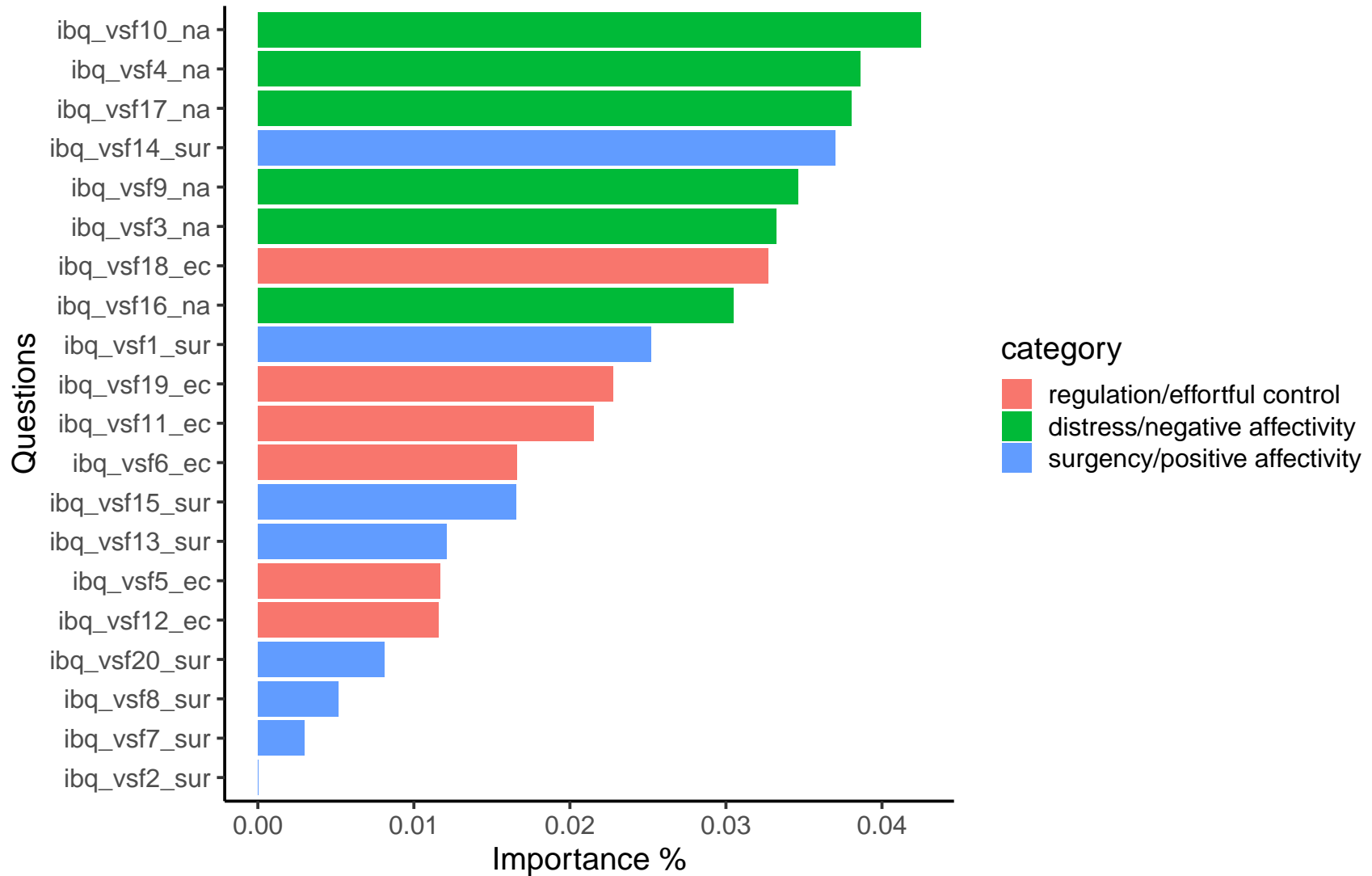
Feature Importance - Random Forest Model Results: All Variables

Random Forest Chronological Age Group vs. Pre-Term Group All Variables



Random Forest Adjusted Age Group vs. Pre-Term Group

All Variables



models	Chronological Age Group VS. Pre-Term Group classification: All Variabes			Adjusted Age Group VS. Pre-Term Group classification		
	accuracy	kappa	AUC	accuracy	kappa	
lda	0.493	-0.014	0.617	0.504	0.009	
glm	0.490	-0.021	0.621	0.524	0.047	
svm	0.493	-0.016	0.550	0.557	0.113	
knn	0.581	0.162	0.603	0.542	0.085	
nb	0.542	0.084	0.576	0.579	0.156	
cart	0.539	0.078	0.542	0.490	-0.020	
c5.0	0.475	-0.051	0.464	0.514	0.029	
bagging	0.517	0.032	0.615	0.532	0.063	
rf	0.500	0.001	0.617	0.574	0.149	
gbm	0.503	0.008	0.646	0.582	0.163	
adabag	0.543	0.084	0.600	0.546	0.093	

models	Chronological Age Group VS. Pre-Term Group classification: Transformed Variabes			Adjusted Age Group VS. Pre-Term Group		
	accuracy	kappa	AUC	accuracy	kappa	
lda	0.532	0.064	0.564	0.581	0.162	
glm	0.525	0.050	0.564	0.585	0.169	
svm	0.457	-0.083	0.478	0.519	0.038	
knn	0.458	-0.086	0.467	0.497	-0.004	
nb	0.525	0.050	0.526	0.578	0.156	
cart	0.493	-0.014	0.528	0.504	0.008	
c5.0	0.497	-0.007	0.500	0.514	0.029	
bagging	0.485	-0.029	0.479	0.454	-0.093	
rf	0.447	-0.105	0.491	0.449	-0.102	
gbm	0.489	-0.022	0.495	0.547	0.093	
adabag	0.492	-0.014	0.517	0.568	0.135	

