Gradient boosting machine

Gradient boosting is a **machine learning** technique for regression and classification problems, which produces a prediction model in the form of an ensemble of weak prediction models, typically decision trees. ***

Split data into training and testing chunks

```
[1] 975    8
```

```
[1] 325    8
```

Create and view model

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Stochastic Gradient Boosting

975 samples
  7 predictor
  2 classes: '0', '1'

No pre-processing
Resampling: Bootstrapped (25 reps)
Summary of sample sizes: 975, 975, 975, 975, 975, 975, ...
Resampling results across tuning parameters:
```

interaction.depth	n.trees	Accuracy	Kappa
2	25	0.7240891	0.3990152
2	50	0.7237293	0.3977847
2	75	0.7204160	0.3905810
2	100	0.7201783	0.3906528
2	125	0.7176699	0.3851309
2	150	0.7172163	0.3845205
2	175	0.7174256	0.3851296
2	200	0.7161968	0.3828154
2	225	0.7185323	0.3880106
2	250	0.7162238	0.3830650
4	25	0.7338128	0.4070598
4	50	0.7319241	0.4085477
4	75	0.7263602	0.3977793
4	100	0.7210861	0.3910095
4	125	0.7211920	0.3927069
4	150	0.7177719	0.3861644
4	175	0.7150944	0.3808049
4	200	0.7127110	0.3770449
4	225	0.7099073	0.3720661
4	250	0.7092644	0.3709170
6	25	0.7353111	0.4103998
6	50	0.7287855	0.4028735
6	75	0.7225939	0.3942360
6	100	0.7200793	0.3902870
6	125	0.7170122	0.3851426
6	150	0.7146593	0.3810540

6	175	0.7102266	0.3719934
6	200	0.7069013	0.3660461
6	225	0.7049902	0.3637581
6	250	0.7032852	0.3603902
8	25	0.7357495	0.4132170
8	50	0.7260280	0.3997669
8	75	0.7167906	0.3844510
8	100	0.7143229	0.3803879
8	125	0.7089542	0.3708061
8	150	0.7075153	0.3693956
8	175	0.7046972	0.3648897
8	200	0.7007575	0.3578473
8	225	0.6966404	0.3504028
8	250	0.6960310	0.3491529
10	25	0.7335025	0.4108805
10	50	0.7208334	0.3909210
10	75	0.7158032	0.3849517
10	100	0.7134742	0.3823206
10	125	0.7081166	0.3713724
10	150	0.7049656	0.3673481
10	175	0.6986619	0.3553500
10	200	0.6972286	0.3529594
10	225	0.6943652	0.3476818
10	250	0.6910617	0.3419303

Tuning parameter 'shrinkage' was held constant at a value of 0.1

Tuning parameter 'n.minobsinnode' was held constant at a value of 10
Accuracy was used to select the optimal model using the largest value.
The final values used for the model were n.trees = 25, interaction.depth
 = 8, shrinkage = 0.1 and n.minobsinnode = 10.

Plot the gradient boosting model