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Individual Self-Assessment

Self-assessment:

Throughout the final project, I engaged in all roles as either primary or supportive; Presentation, GitHub, Machine Learning, Database, and Dashboard. My primary contributions were with Presentation, GitHub and Dashboard (Tableau). While not primary in Machine Learning or Database, the project team collaborated often to and brainstormed challenges, completed team and peer reviews, celebrated successes, and made some new friends along the way.

The greatest challenge was selecting a suitable dataset. It resulted in a crash course of self-learning and engaging with the instructional team. Finally, the project team members worked individually to identify couple datasets, then as a team, we reviewed each and selected the final one based on unanimous agreement.

Team assessment:

For the duration of this project, Slack was the primary communication platform, with email and text message as secondary options, and Zoom technology supported twice weekly and adhoc meetings.

This team worked very well together and team dynamic challenges were very few. Communications were timely, respectful, constructive, and enjoyable. The biggest challenge is that individual personal lives are not on the same schedule. We juggled meeting times around the complexities of work life, personal life, and school life – and for a couple members, that included the extra challenge of dealing with symptoms of COVID. Overall, this team is a success, and I would gladly work with any one or all of them on another project.

The strength of this team was respectful and timely communication, everybody 'showed up'.

Summary of the project:

Completed a Machine Learning project that successfully predicted wine quality based on 11 physicochemical attributes. This potentially eliminates the need for wineries to rely on expert sensory [taste] testers to define wine quality.

Classifier models were explored; Decision Tree, Random Forest, Balanced Random Forest, and Gradient Boosting. Random Forest selected as the classification model:

	Accuracy	Precision	Recall	F1-Score	Support
Decision Tree	0.643077	0.643077	0.643077	0.643077	0.643077
Random Forest	0.732923	0.732923	0.732923	0.732923	0.732923
Balanced Random Forest	0.676923	0.676923	0.676923	0.676923	0.676923
Gradient Boosting Classifier	0.622154	0.622154	0.622154	0.622154	0.622154

Random Forest Classification Report results:

	precision	recall	f1-score	support
high	0.78	0.59	0.67	320
low	0.76	0.75	0.76	596
medium	0.68	0.76	0.72	709
accuracy			0.72	1625
macro avg	0.74	0.70	0.71	1625
weighted avg	0.73	0.72	0.72	1625