Rubric for Supervised Learning:

	Mastery **30 to > 27 points**	**Approaching Mastery** **27 to > 23 points**	**Progressing** **23 to > 19 points**	**Emerging** **19 to > 0 points**	**Incomplete**
Deliverable 1: Use Resampling Models to Predict Loan Risk	✓ There is an accuracy score and confusion matrix for ALL THREE algorithms (15 pt) ✓ A classification report is generated for ALL THREE algorithms (15 pt)	✓ There is an accuracy score and confusion matrix for ALL THREE algorithms (15 pt) ✓ A classification report is generated for TWO of THREE algorithms (10 pt) ✓ Code is written to generate a classification report for the third algorithms (2 pt)	✓ There is an accuracy score and confusion matrix for ALL THREE algorithms (15 pt) ✓ A classification report is generated for ONE of THREE algorithms (5 pt) ✓ Code is written to generate a classification report for TWO algorithms but there are errors (3 pt)	✓ There is an accuracy score and confusion matrix for ALL THREE algorithms (15 pt) ✓ Code is written to generate a classification report for ONE or more algorithms (4 pt)	No submission was received -OR- Submission was empty or blank -OR- Submission contains evidence of academic dishonesty
	Mastery **15 to > 13 points**	**Approaching Mastery** **13 to > 12 points**	**Progressing** **12 to > 9 points**	**Emerging** **9 to > 0 points**	
Deliverable 2: Use the SMOTEENN algorithm to Predict Loan Risk	✓ There is an accuracy score for the SMOTEENN algorithm (5 pt) ✓ There is a confusion matrix for the SMOTEENN algorithm (5 pt) ✓ A classification report is generated for the SMOTEENN algorithm (5 pt)	✓ There is an accuracy score for the SMOTEENN algorithm (5 pt) ✓ There is a confusion matrix for the SMOTEENN algorithm (5 pt) ✓ Code is written to generate a classification report for the SMOTEENN algorithm but there is a minor error (3 pt)	✓ There is an accuracy score for the SMOTEENN algorithm (5 pt) ✓ There is a confusion matrix for the SMOTEENN algorithm (5 pt) ✓ Code is written to generate a classification report for the SMOTEENN algorithm (2 pt)	✓ There is an accuracy score for the SMOTEENN algorithm (5 pt) ✓ Code is written to generate a confusion matrix for the SMOTEENN algorithm (2 pt) ✓ Code is written to generate a classification report for the SMOTEENN algorithm (2 pt)	
	Mastery **25 to > 22 points**	**Approaching Mastery** **22 to > 18 points**	**Progressing** **18 to > 16 points**	**Emerging** **16 to > 0 points**	
Deliverable 3: Use Ensemble Classifiers to Predict Loan Risk	✓ There is an accuracy score and confusion matrix for TWO algorithms (10 pt) ✓ A classification report is generated for TWO algorithms (10 pt) ✓ The list of features is sorted in descending order by feature importance (5 pt)	✓ There is an accuracy score and confusion matrix for TWO algorithms (10 pt) ✓ A classification report is generated for TWO algorithms (10 pt) ✓ The list of features is not sorted in descending order by feature importance (2 pt)	✓ There is an accuracy score and confusion matrix for TWO algorithms (10 pt) ✓ A classification report is generated for ONE of TWO algorithms (5 pt) ✓ Code is written to generate a classification report for the second algorithm (1 pt)	✓ There is an accuracy score and confusion matrix for TWO algorithms (10 pt) ✓ Code is written to generate a classification report for ONE of TWO algorithms (4 pt) ✓ Code is written that lists the features sorted in descending order by feature importance (2 pt)	

			✓ Code is written that lists the features sorted in descending order by feature importance (2 pt)		
	Mastery **6 points to > 5 points**	**Approaching Mastery** **5 to > 4 points**	**Progressing** **4 to > 3 points**	**Emerging** **3 to > 0 points**	
Deliverable 4: Structure, Organization, and Formatting	The written analysis has ALL of the following: ✓ There is a title, and there are multiple sections. (2 pt) ✓ Each section has a heading and subheading. (2 pt) ✓ There are images and references to code, and they are formatted and displayed correctly. (2 pt)	The written analysis has ALL of the following: ✓ There is a title, and there are multiple sections. (2 pt) ✓ Each section has a heading and subheading. (2 pt) ✓ There are images and references to code, and they are formatted and displayed correctly with one or two minor errors. (1 pt)	The written analysis has ALL of the following: ✓ There is a title, and there are multiple sections. (2 pt) AND ONE of the following: ✓ Each section may have a heading and subheading. (2 pt) ✓ There are images and references to code, and they are formatted and displayed correctly with one or two minor errors. (1 pt)	The written analysis has ALL of the following: ✓ There is a title. (1 pt) ✓ There may be a subheading for a section. (1 pt) ✓ There are no headings for each section, but there are three sections. (1 pt)	
	Mastery **24 to > 20 points**	**Approaching Mastery** **20 to > 18 points**	**Progressing** **18 to > 16 points**	**Emerging** **16 to > 0 points**	
Deliverable 4: Analysis	✓ The purpose is well defined (4 pt). ✓ The balanced accuracy score and the precision and recall scores for ALL SIX algorithms are described (15 pt) ✓ The results are summarized and there is a recommendation on which model to use or justification (5 pt)	✓ The purpose is well defined (4 pt). ✓ The balanced accuracy score and the precision and recall scores for FIVE of the SIX algorithms are described (13 pt). ✓ The results are summarized but the recommendation on which model to use or justification is not clear (3 pt)	✓ The purpose is well defined (4 pt). ✓ The balanced accuracy score and the precision and recall scores for FOUR of the SIX algorithms are described (12 pt). ✓ The results are summarized but there is no recommendation on which model to use or justification (2 pt)	✓ The purpose is well defined (4 pt). ✓ The balanced accuracy score and the precision and recall scores for THREE of the SIX algorithms are described (10 pt). ✓ The results are summarized but there is no recommendation on which model to use or justification (2 pt)	