

**Rubric for Supervised Learning:**

<b>Criteria</b>	<b>Demonstrating Proficiency 30 to &gt; 27 points</b>	<b>Approaching Proficiency 27 to &gt; 23 points</b>	<b>Developing Proficiency 23 to &gt; 19 points</b>	<b>Emerging 19 to &gt; 0 points</b>	<b>Incomplete 0 points</b>	<b>Pts</b>
<b>Deliverable 1: Use Resampling Models to Predict Loan Risk</b>	<p>✓There is an accuracy score and confusion matrix for ALL THREE algorithms.</p> <p>✓A classification report is generated for ALL THREE algorithms.</p>	<p>✓There is an accuracy score and confusion matrix for ALL THREE algorithms.</p> <p>✓A classification report is generated for TWO of THREE algorithms.</p> <p>✓Code is written to generate a classification report for the third algorithm.</p>	<p>✓There is an accuracy score and confusion matrix for ALL THREE algorithms.</p> <p>✓A classification report is generated for ONE of THREE algorithms.</p> <p>✓Code is written to generate a classification report for TWO algorithms, but there are errors.</p>	<p>✓There is an accuracy score and confusion matrix for ALL THREE algorithms.</p> <p>✓Code is written to generate a classification report for ONE or more algorithms.</p>		30.0
	<b>Demonstrating Proficiency 15 to &gt; 13 points</b>	<b>Approaching Proficiency 13 to &gt; 12 points</b>	<b>Developing Proficiency 12 to &gt; 9 points</b>	<b>Emerging 9 to &gt; 0 points</b>		
<b>Deliverable 2: Use the SMOTEENN Algorithm to Predict Loan Risk</b>	<p>✓There is an accuracy score for the SMOTEENN algorithm.</p> <p>✓There is a confusion matrix for the SMOTEENN algorithm.</p> <p>✓A classification report is generated for the SMOTEENN algorithm.</p>	<p>✓There is an accuracy score for the SMOTEENN algorithm.</p> <p>✓There is a confusion matrix for the SMOTEENN algorithm.</p> <p>✓Code is written to generate a classification report for the SMOTEENN algorithm, but there is a minor error.</p>	<p>✓There is an accuracy score for the SMOTEENN algorithm.</p> <p>✓There is a confusion matrix for the SMOTEENN algorithm.</p> <p>✓Code is written to generate a classification report for the SMOTEENN algorithm.</p>	<p>✓There is an accuracy score for the SMOTEENN algorithm.</p> <p>✓Code is written to generate a confusion matrix for the SMOTEENN algorithm.</p> <p>✓Code is written to generate a classification report for the SMOTEENN algorithm.</p>		15.0
	<b>Demonstrating Proficiency 25 to &gt; 22 points</b>	<b>Approaching Proficiency 22 to &gt; 18 points</b>	<b>Developing Proficiency 18 to &gt; 16 points</b>	<b>Emerging 16 to &gt; 0 points</b>		
<b>Deliverable 3: Use Ensemble Classifiers to Predict Loan Risk</b>	<p>✓There is an accuracy score and confusion matrix for TWO algorithms.</p> <p>✓A classification report is</p>	<p>✓There is an accuracy score and confusion matrix for TWO algorithms.</p> <p>✓A classification report is</p>	<p>✓There is an accuracy score and confusion matrix for TWO algorithms.</p> <p>✓A classification report is</p>	<p>✓There is an accuracy score and confusion matrix for TWO algorithms.</p> <p>✓Code is written to generate a</p>		25.0

	generated for TWO algorithms. ✓The list of features is sorted in descending order by feature importance.	generated for TWO algorithms. ✓The list of features is not sorted in descending order by feature importance.	generated for ONE of TWO algorithms. ✓Code is written to generate a classification report for the second algorithm. ✓Code is written that lists the features sorted in descending order by feature importance.	classification report for ONE of TWO algorithms. ✓Code is written that lists the features sorted in descending order by feature importance.		
	<b>Demonstrating Proficiency 6 points to &gt; 5 points</b>	<b>Approaching Proficiency 5 to &gt; 4 points</b>	<b>Developing Proficiency 4 to &gt; 3 points</b>	<b>Emerging 3 to &gt; 0 points</b>		
<b>Deliverable 4: Structure, Organization, and Formatting</b>	The written analysis has ALL of the following:  ✓There is a title, and there are multiple sections.  ✓Each section has a heading and subheading.  ✓There are images and references to code, and they are formatted and displayed correctly.	The written analysis has ALL of the following:  ✓There is a title, and there are multiple sections.  ✓Each section has a heading and subheading.  ✓There are images and references to code, and they are formatted and displayed correctly, with one or two minor errors.	The written analysis has ALL of the following:  ✓There is a title, and there are multiple sections.  AND ONE of the following:  ✓Each section may have a heading and subheading.  ✓There are images and references to code, and they are formatted and displayed correctly, with one or two minor errors.	The written analysis has ALL of the following:  ✓There is a title.  ✓There may be a subheading for a section.  ✓There are no headings for each section, but there are three sections.		6.0
	<b>Demonstrating Proficiency 24 to &gt; 20 points</b>	<b>Approaching Proficiency 20 to &gt; 18 points</b>	<b>Developing Proficiency 18 to &gt; 16 points</b>	<b>Emerging 16 to &gt; 0 points</b>		
<b>Deliverable 4: Analysis</b>	✓The purpose is well defined.  ✓The balanced accuracy score and the precision and recall scores for ALL SIX algorithms are described.  ✓The results are summarized, and there is a recommendation on which model to use or justification.	✓The purpose is well defined.  ✓The balanced accuracy score and the precision and recall scores for FIVE of the SIX algorithms are described.  ✓The results are summarized, but the recommendation on which model to use or justification is not clear.	✓The purpose is well defined.  ✓The balanced accuracy score and the precision and recall scores for FOUR of the SIX algorithms are described.  ✓The results are summarized, but there is no recommendation on which model to use or justification.	✓The purpose is well defined.  ✓The balanced accuracy score and the precision and recall scores for THREE of the SIX algorithms are described.  ✓The results are summarized, but there is no recommendation on which model to use or justification.		24.0

