Rubric for Module 19 Challenge:

	Demonstrating Proficiency 30 to > 27 points	**Approaching Proficiency 27 to > 24 points**	**Developing Proficiency 24 to > 21 points**	**Emerging 21 to > 0 points**	**Incomplete 0 points**	**Pts**
Deliverable 1: Preprocessing Data for a Neural Network Model	The Deliverable Fulfills "Approaching Proficiency" Required Criteria and meets this requirement: ● The numerical values have been standardized using the StandardScaler.	The Deliverable Fulfills "Developing Proficiency" Required Criteria and meets this requirement: ● The preprocessed data is split into training and testing datasets. AND has this: ● Code is written to standardize the numerical values using the StandardScaler.	The Deliverable Fulfills "Emerging" Required Criteria and meets this requirement: ● The preprocessed data is split into features and target arrays. AND has these: ● Code is written to split the preprocessed data into training and testing datasets. ● Code is written to standardize the numerical values using the StandardScaler.	REQUIRED: The Deliverable does the following: ● The EIN and NAME columns have been dropped. ● Columns with more than 10 unique values have been grouped together. ● The categorical variables have been encoded using one-hot encoding. AND has these: ● Code is written to split the preprocessed data into features and target arrays. ● Code is written to split the preprocessed data into training and testing datasets. ● Code is written to standardize the numerical values using the StandardScaler.		30.0
	Demonstrating Proficiency 20 to > 19 points	**Approaching Proficiency 19 to > 17 points**	**Developing Proficiency 17 to > 14 points**	**Emerging 14 to > 0 points**		
Deliverable 2: Compile, Train and Evaluate the Model	The Deliverable Fulfills Developing Proficiency" Required Criteria and meets these requirements: ● The model's weights are saved every 5 epochs. ● The results are saved to an	The Deliverable Fulfills "Developing Proficiency" Required Criteria and meets this requirement: AND does this: ● The model's weights are saved every 5 epochs.	The Deliverable Fulfills "Emerging" Required Criteria and meets this requirement: ● There is an output of the model’s loss and accuracy. AND does these: ● Code is written to save the	REQUIRED: The Deliverable does the following: ● The number of layers and number of neurons per layer and activation function are defined.		20.0

	HDF5 file.	• Code is written to save the results to an HDF5 file but there is an error. OR, does this: • Code is written to save the model's weights every 5 epochs but has errors. • The results are saved to an HDF5 file.	model's weights every 5 epochs but has errors. • Code is written to save the results to an HDF5 file but there is an error.	• An output layer with an activation function is created. • There is an output of the structure of the model. AND does these: • Code is written to create an output of the model's loss and accuracy. • Code is written to save the model's weights every 5 epochs but has errors. • Code is written to save the results to an HDF5 file but there is an error.		
	Demonstrating Proficiency 20 to > 17 points	**Approaching Proficiency 17 to > 14 points**	**Developing Proficiency 14 to > 12 points**	**Emerging 12 to > 0 points**		
Deliverable 3: Optimize the Model	Student produces model that demonstrates predictive accuracy over 75%: OR The student's solution contains working code that attempts to increase model performance at least THREE times using the following steps: • Noisy variables are removed from features. • Additional neurons are added to the hidden layers. • Additional hidden layers are added. • The activation function of hidden layers or output layer are changed for optimization. AND:	The student's solution contains working code that attempts to increase model performance at least TWO times using the following steps: • Leaving out noisy variables from features. • Additional neurons are added to the hidden layers. • Adds additional hidden layers to the model. • Changes the activation function of hidden layers or output layer. AND: • The model's weights are saved every 5 epochs. • The results are saved to an HDF5 file.	The student's solution contains working code that attempts to increase model performance at least ONE time using the following steps: • Leaving out noisy variables from features. • Additional neurons are added to the hidden layers. • Adds additional hidden layers to the model. • Changes the activation function of hidden layers or output layer. AND: • The model's weights are saved every 5 epochs. • The results are saved to an HDF5 file.	Student attempts to produce working code that produces the following steps: • Leaving out noisy variables from features. • Additional neurons are added to the hidden layers. • Adds additional hidden layers to the model. • Changes the activation function of hidden layers or output layer. AND: • The model's weights are saved every 5 epochs. • The results are saved to an HDF5 file.		20.0

	• The model's weights are saved every 5 epochs. • The results are saved to an HDF5 file.					
	Demonstrating Proficiency 6 points to > 5 points	**Approaching Proficiency 5 to > 4 points**	**Developing Proficiency 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. • Each section has a heading and subheading. • The images 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. • The images 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. • The images 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
	Demonstrating Proficiency 24 to > 21 points	**Approaching Proficiency 21 to > 18 points**	**Developing Proficiency 18 to > 16 points**	**Emerging 16 to > 0 points**		
Deliverable 4: Analysis	• The purpose is well defined. • ALL SIX questions are answered. • The results are summarized, and there is a recommendation on using a different model to solve the classification problem with a justification.	• The purpose is well defined. • FIVE of the SIX questions are answered. • The results are summarized, and there is a recommendation on using a different model to solve the classification problem, but there is no justification.	• The purpose is well defined. • FOUR of the SIX questions are answered(12 pt). • The results are summarized, but there is no recommendation on using a different model to solve the classification problem.	• The purpose is well defined. • THREE of the SIX questions are answered. • The results are summarized, but there is no recommendation on using a different model to solve the classification problem.		24.0