

		Shen Yang Team: YS	
	Ideal	Score	Instructor Notes
	Score	Score	
Total Points	10	9.2	Score Points:09.20
Total Percentage	100	92	
Exceptional work: Required 7000: Use transfer learning to pre-train the weights of your initial layers of your CNN. Compare the performance when using transfer learning to training from scratch in terms of classification performance.	10	7	This was a good use of transfer learning, but I would also show the history plot to show convergence. Right now a number of your models seem to not quite be converged (though they look close).
Choose and explain what metric(s) you will use to evaluate your algorithm's performance. You should give a detailed argument for why this (these) metric(s) are appropriate on your data. That is, why is the metric appropriate for the task (e.g., in terms of the business case for the task). Please note: rarely is accuracy the best evaluation metric to use. Think deeply about an appropriate measure of performance.	15	15	
Choose the method you will use for dividing your data into training and testing (i.e., are you using Stratified 10-fold cross validation? Shuffle splits? Why?). Explain why your chosen method is appropriate or use more than one method as appropriate. Convince me that your cross validation method is a realistic mirroring of how an algorithm would be used in practice.	15	15	
Create a convolutional neural network to use on your data using Keras. Setup the training to use data expansion in Keras. Explain why the chosen data expansion techniques are appropriate for your dataset.	15	10	I see some of the expansion techniques you use, but not the arguments for or against them.
Investigate at least two different convolutional network architectures (and investigate changing some parameters of each architecture). Use the method of cross validation and evaluation metric that you argued for at the beginning of the lab. Visualize the performance of the training and validation sets per iteration (use the "history" parameter of Keras).	20	20	
Visualize the final results of the CNNs and interpret the performance. Use proper statistics as appropriate , especially for comparing models.	15	15	
Compare the performance of your convolutional network to a standard multi-layer perceptron (MLP) using the receiver operating characteristic and area under the curve . Use proper statistical comparison techniques.	10	10	