**Capstone Project**

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| **Project Notes 2 - Description and Grading** |

The second set of project notes must be a thorough exercise on model building, model evaluation and identifying the areas of improvement in the model. A detailed report including the same is also expected.

There are two key objective:

1. Building (setting up) a pneumonia detection model starting from basic CNN.
2. Testing the model to understand the performance using the right evaluation metrics.

To deal with large training time, saving the weights so that you can use them when training the model for the second time without starting from scratch.

Few Guidelines:

1. **Model Building**: Build (set up) a pneumonia detection model starting from basic CNN.
   1. Prepare the data for model building. Split data into train and validation sets.
   2. Create the network and compile the model. Print the model summary. Create the train and the validation generator and fit the model.

1. **Model Evaluation:** Test the model to understand the performance using the right evaluation metrics.
   1. Evaluate the model using the plots for the loss, accuracy and other metrics identified.
   2. Predict on a batch of images and provide visualizations of the same. Identify the areas of improvement for the next iterations.

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| **Parameters** | **Points** |
| 1) Model Building | 6 |
| a) Prepare the data for model building. Split data into train and validation sets. |  |
| b) Create the network and compile the model. Print the model summary. Create the train and the validation generator and fit the model. |  |
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| 2)Model Evaluation | 4 |
| a) Evaluate the model using the plots for the loss, accuracy and other metrics identified. |  |
| b) Predict on a batch of images and provide visualizations of the same.Identify the areas of improvement for the next iterations. |  |
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| **Total** | **10** |