

Model Development Phase Template

Date	15 November 2024
Team ID	739824
Project Title	Fertilizer Recommendation System For Agriculture Using Ai
Maximum Marks	10 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include a summary and training and validation performance metrics for multiple models, presented through respective screenshots.

Initial Model Training Code (5 marks):

Paste the screenshot of the model training code

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics																								
Convolutional Neural Network (CNN)	<p>Initialize the model</p> <pre>In [17]: model = Sequential()</pre> <p>Add the convolution layer</p> <pre>In [18]: model.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu'))</pre> <p>Add the pooling layer</p> <pre>In [19]: model.add(MaxPooling2D(pool_size=(2, 2)))</pre> <p>Add the flatten layer</p> <pre>In [20]: model.add(Flatten())</pre> <p>Adding the dense layers</p> <pre>In [21]: model.add(Dense(units=128, activation='relu')) model.add(Dense(units=64, activation='relu'))</pre>	<p>Model: "sequential"</p> <table border="1"> <thead> <tr> <th>Layer (type)</th><th>Output Shape</th><th>Param #</th></tr> </thead> <tbody> <tr> <td>conv2d (Conv2D)</td><td>(None, 62, 62, 32)</td><td>320</td></tr> <tr> <td>max_pooling2d (MaxPooling2D)</td><td>(None, 31, 31, 32)</td><td>0</td></tr> <tr> <td>flatten (Flatten)</td><td>(None, 30752)</td><td>0</td></tr> <tr> <td>dense (Dense)</td><td>(None, 512)</td><td>15,745,536</td></tr> <tr> <td>dense_1 (Dense)</td><td>(None, 9)</td><td>4,617</td></tr> <tr> <td>dense_2 (Dense)</td><td>(None, 512)</td><td>5,120</td></tr> <tr> <td>dense_3 (Dense)</td><td>(None, 9)</td><td>4,617</td></tr> </tbody> </table> <p>Total params: 15,760,210 (60.12 MB) Trainable params: 15,760,210 (60.12 MB) Non-trainable params: 0 (0.00 B)</p>	Layer (type)	Output Shape	Param #	conv2d (Conv2D)	(None, 62, 62, 32)	320	max_pooling2d (MaxPooling2D)	(None, 31, 31, 32)	0	flatten (Flatten)	(None, 30752)	0	dense (Dense)	(None, 512)	15,745,536	dense_1 (Dense)	(None, 9)	4,617	dense_2 (Dense)	(None, 512)	5,120	dense_3 (Dense)	(None, 9)	4,617
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