

## Model Development Phase Template

Date	15 March 2024
Team ID	team-739735
Project Title	Natural Disasters Intensity Analysis And Classification 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)	<pre> classifier = Sequential()  classifier.add(Conv2D(32, (3, 3), input_shape=(64, 64, 3), activation='relu')) classifier.add(MaxPooling2D(pool_size=(2, 2))) classifier.add(Conv2D(32, (3, 3), activation='relu')) classifier.add(MaxPooling2D(pool_size=(2, 2))) classifier.add(Flatten())  classifier.add(Dense(units=128, activation='relu')) classifier.add(Dense(units=4, activation='softmax'))  classifier.summary()  Compile the model  25: model.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy']) 26: model.summary() </pre>	<p>Model: "sequential"</p> <table> <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>896</td></tr> <tr> <td>max_pooling2d (MaxPooling2D)</td><td>(None, 31, 31, 32)</td><td>0</td></tr> <tr> <td>conv2d_1 (Conv2D)</td><td>(None, 29, 29, 32)</td><td>9,248</td></tr> <tr> <td>max_pooling2d_1 (MaxPooling2D)</td><td>(None, 14, 14, 32)</td><td>0</td></tr> <tr> <td>flatten (Flatten)</td><td>(None, 6272)</td><td>0</td></tr> <tr> <td>dense (Dense)</td><td>(None, 128)</td><td>802,944</td></tr> <tr> <td>dense_1 (Dense)</td><td>(None, 4)</td><td>516</td></tr> </tbody> </table> <p>Total params: 813,604 (3.10 MB) Trainable params: 813,604 (3.10 MB) Non-trainable params: 0 (0.00 B)</p>	Layer (type)	Output Shape	Param #	conv2d (Conv2D)	(None, 62, 62, 32)	896	max_pooling2d (MaxPooling2D)	(None, 31, 31, 32)	0	conv2d_1 (Conv2D)	(None, 29, 29, 32)	9,248	max_pooling2d_1 (MaxPooling2D)	(None, 14, 14, 32)	0	flatten (Flatten)	(None, 6272)	0	dense (Dense)	(None, 128)	802,944	dense_1 (Dense)	(None, 4)	516
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