

## Model Development Phase Template

Date	20 August 2025
Team ID	Sneha S
Project Title	mushroom
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
Model 1	<pre> model.compile(optimizer='adam',                loss='categorical_crossentropy', # 📄 categorical loss                metrics=['accuracy'])  # ===== # 4. Train Model # =====  steps_per_epoch = train_generator.samples // train_generator.batch_size validation_steps = validation_generator.samples // validation_generator.batch_size  history = model.fit(     train_generator,     steps_per_epoch=steps_per_epoch,     epochs=20,     validation_data=validation_generator,     validation_steps=validation_steps ) </pre>	<pre> # 📄 100% valid accuracy from training generator class_labels = list(train_generator.class_indices.keys()) print("Class labels:", class_labels)  # ===== # Predict on a single image # ===== img_path = "/kaggle/input/mushroom/Dataset/train/Boletus/B06f1_95514fyR0.jpg" # 📁 replace with your test image  # Load and preprocess image img = image.load_img(img_path, target_size=(224, 224)) # must match model input size img_array = image.img_to_array(img) / 255.0 # rescale like in training img_array = np.expand_dims(img_array, axis=0) # add batch dimension  # Predict predictions = model.predict(img_array) predicted_class = np.argmax(predictions, axis=-1)[0] confidence = np.max(predictions)  print(f"📄 Predicted Class: (class_labels[predicted_class]) (Confidence: (confidence*100:.2f)%)"  Class labels: ['Boletus', 'Lactarius', 'Russula'] 1/1 ----- 4s/stop 📄 Predicted Class: Russula (Confidence: 99.84%) </pre>

