

# **Project Report: Rice Type Detection**

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## **1. Introduction**

The Rice Type Detection project is a computer vision application developed using a convolutional neural network (CNN) to classify different types of rice grains from their images. This project is implemented as part of an AI internship provided through the SmartInternz platform, aimed at helping students gain hands-on experience in deep learning and web deployment.

## **2. Project Objective**

To build a machine learning model that can accurately classify rice grain images into specific rice types such as Basmati, Arborio, Jasmine, and others. The objective includes training a deep learning model, integrating it with a Flask application, and deploying it with an interactive user interface.

## **3. Technologies Used**

- Python
- TensorFlow / Keras (CNN model building)
- Flask (Web framework)
- HTML, CSS (Frontend)
- Jupyter Notebook (for model development)
- SmartInternz / Kaggle (Platform for project execution and data source)

## **4. Dataset and Model**

The dataset used contains labeled images of various rice types, collected from the Kaggle platform. A CNN model was built, trained, and tested on this dataset. The model achieved high accuracy and was saved in H5 format for inference during deployment.

## **5. Web Application Interface**

The Flask web application includes the following pages:

- Home Page (index.html): Displays the project title and prediction button with a visually rich UI.
- Upload Page (details.html): Allows users to upload an image for prediction.
- Prediction Page (results.html): Displays the predicted rice type with the uploaded image.

Each page is styled using CSS to enhance user experience. A consistent background and button theme has been maintained for professionalism.

## **6. Contact and Footer**

The web application includes a footer section with contact information and SmartInternz branding. This ensures clarity for users and adds a professional look to the platform.

## **7. Screenshots**

The following images show the web application interface and functionality:



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This model can detect rice type based on rice images.

Predict

About the Rice Type Classification Model

Accuracy of the Model Different Types of Rice Dataset Used Technical Architecture

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### About the Rice Type Classification Model

Accuracy of the Model      Different Types of Rice      Dataset Used      Technical Architecture

#### CONTACT US

Email Us  
info@ricepredict.com  
contact@example.com

Call Us  
+91 99852 55448  
+91 62682 25464

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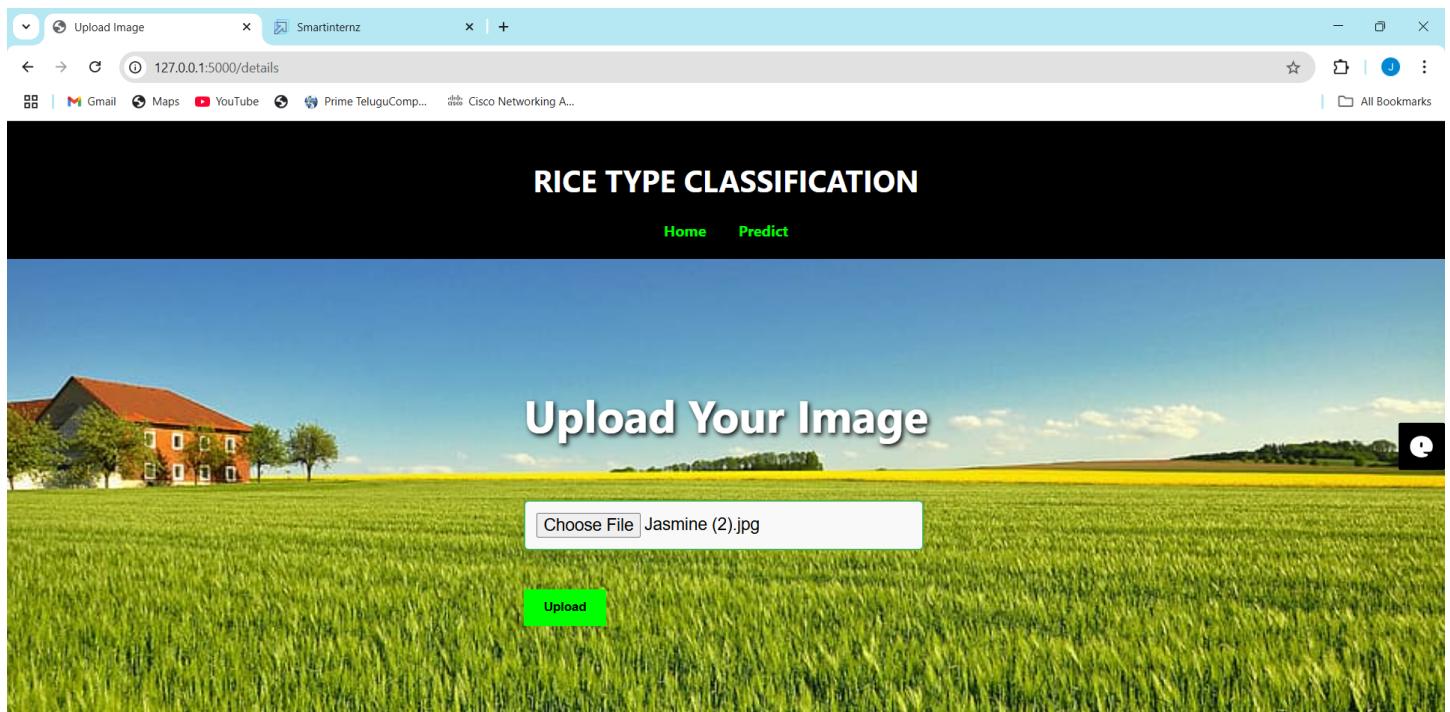


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Prediction Result    Smartinternz

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## RICE TYPE CLASSIFICATION

Home Predict

# Prediction Result

Predicted Rice Type: Jasmine



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