**Title:** **AI-Enhanced Rice Variety Classification**

**Team** **Members:** Chengzhuo Xiong, Yutong Tang, Yuxuan Feng

**Description:** The aim of our project is to develop a machine learning model capable of classifying rice varieties using image data. Utilizing the rice image dataset from Kaggle, we will try to implement convolutional neural networks (CNNs, ***TensorFlow*** and ***Keras*** libraries in python) as well as Random Forests (***scikit-learn*** library in python) to analyze the visual features that distinguish different types of rice grains. This endeavor will not only contribute to agricultural research by providing insights into rice phenotypes but also aid in automating the quality control process within the food industry.

**Outcome:** Our deliverable will be an efficient, accurate model for rice classification. We will also draft a comprehensive report detailing our model's performance metrics, such as accuracy, precision, and recall, and discuss potential applications and future work.

**Dataset** **source**:

https://www.kaggle.com/datasets/muratkokludataset/rice-image-dataset/data