# ABSTRACT

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Title Research Proposal           : Cricket Player Performance Analysis through Image Recognition: Categorizing Batting Techniques and Predicting Player Dismissals

This thesis looks at the use of image recognition to classify cricket shots, with a particular focus on classifying batting strategies. The study analyzes cricket photos and extracts useful insights by using VGG16, ResNet50 and EfficientNet , all of which are Convolutional Neural Networks (CNNs) with TensorFlow, a well-known machine-learning framework. The suggested process includes setting up TensorFlow, importing necessary libraries, and creating directories for various batting strategies. ImageDataGenerator is used for preprocessing and data augmentation. To provide reliable model training, training, and validation data are loaded and preprocessed according to a subset split. Convolutional and pooling layers are built into a CNN model architecture, which results in a fully connected dense layer for classification. The models are integrated seamlessly into the working environment and the model is trained and evaluated subsequently, with performance metrics recorded. This research contributes to the burgeoning field of sports analytics by introducing an innovative approach to cricket shots classification. The application of image recognition techniques offers a nuanced understanding of batting techniques and enhances the ability to predict player dismissals. The abstract concludes with an invitation for further exploration and validation of the proposed methodology in the broader context of sports science.

**Keywords: : Cricket, Image Recognition, Convolutional Neural Networks, VGG16, ResNet50, TensorFlow, Keras, EfficientNet**