Building a Mobile App for Sports Memorabilia Identification

Overview

The goal of this project was to develop a mobile app that could identify baseball cards from a database of cards using machine learning techniques. The app was designed to take a photograph of a baseball card and identify the card by matching it against a database of baseball cards. Once the matching was complete, all the metadata of the baseball card was returned to the user.

Problem Statement

The challenge in developing this app was to build a machine learning model that could accurately identify baseball cards from a large database of cards. The model had to be able to extract features from the final layer of the images of baseball cards and perform a similarity search to match the input image with the most similar card from the database.

CUSTOMER

Country: USA
Industry: Private Sector
Customer Size: 500 - 1000
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Technical Solution

To tackle this problem, the team developed a machine learning model using PyTorch. The model was trained on a large database of baseball card images using transfer learning techniques. The model was designed to extract features from the final layer of the images and use these features to perform a similarity search to match the input image with the most similar card from the database.

The app was developed using Python and the Android App stack. It was designed to take a photograph of a baseball card, send the image to the machine learning model for feature extraction and similarity search, and return the metadata of the matching card to the user.

Technologies	Domain
Python, PyTorch, Android App	Computer Vision, Deep Learning, One-Shot Learning,

Results

The results of the project were promising, with the mobile app successfully identifying baseball cards from a large database of cards. The app was able to extract features from the final layer of the images and use these features to perform a similarity search to match the input image with the most similar card from the database.

In several test cases, the app was able to accurately identify baseball cards and return all the metadata of the card to the user. The app provided a fast and efficient way to identify baseball cards and provided a valuable tool for sports memorabilia enthusiasts.

Overall, the project demonstrated the potential of using machine learning techniques to develop mobile apps for sports memorabilia identification. The project highlighted the importance of transfer learning techniques and similarity search algorithms in developing accurate and efficient machine learning models.