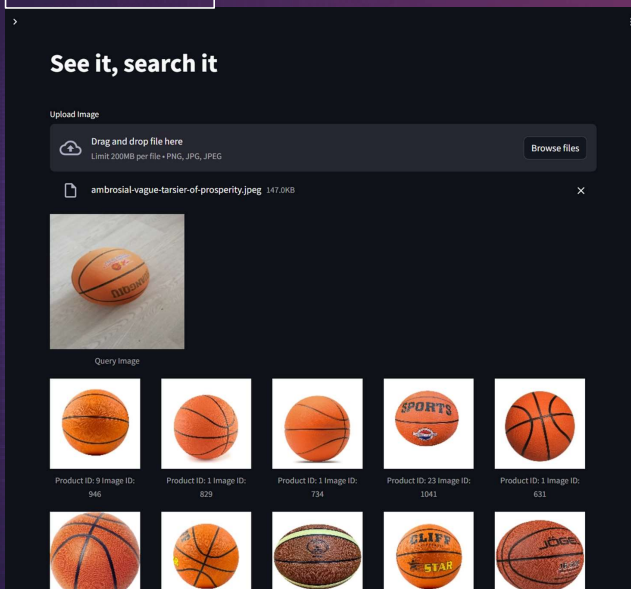# Visual Product Recognition

Objective

Allow users to upload an image, and in response, retrieve the first thousand most similar images from the marketplace, providing a seamless and efficient image search experience.

App Demo

Data Preparation and Training

products-10k" images are grouped by class labels, and samples from each class are collected for training. Classes with a sufficient number of samples are chosen.

Model Training

We utilized two versions of the pipeline
- ViT-B-32-quickgelu , ViT-H-14
- **Loss Function :** ArcFace with Adaptive margin
- **Optimizer :** AdamW + CosineScheduler with a warmup

Model Validation

- Calculated the mAP (mean Average Precision) score as an accuracy metric for the retrieval process.
- ViT-H-14 : 0.62
- ViT-B-32 : 0.32