

FR. C RODRIGUES INSTITUTE OF TECHNOLOGY , VASHI

IISER, Mohali



DRISHTI MANI- CURRENCY DETECTION FOR VISUALLY IMPAIRED

T.E IT-Group 1

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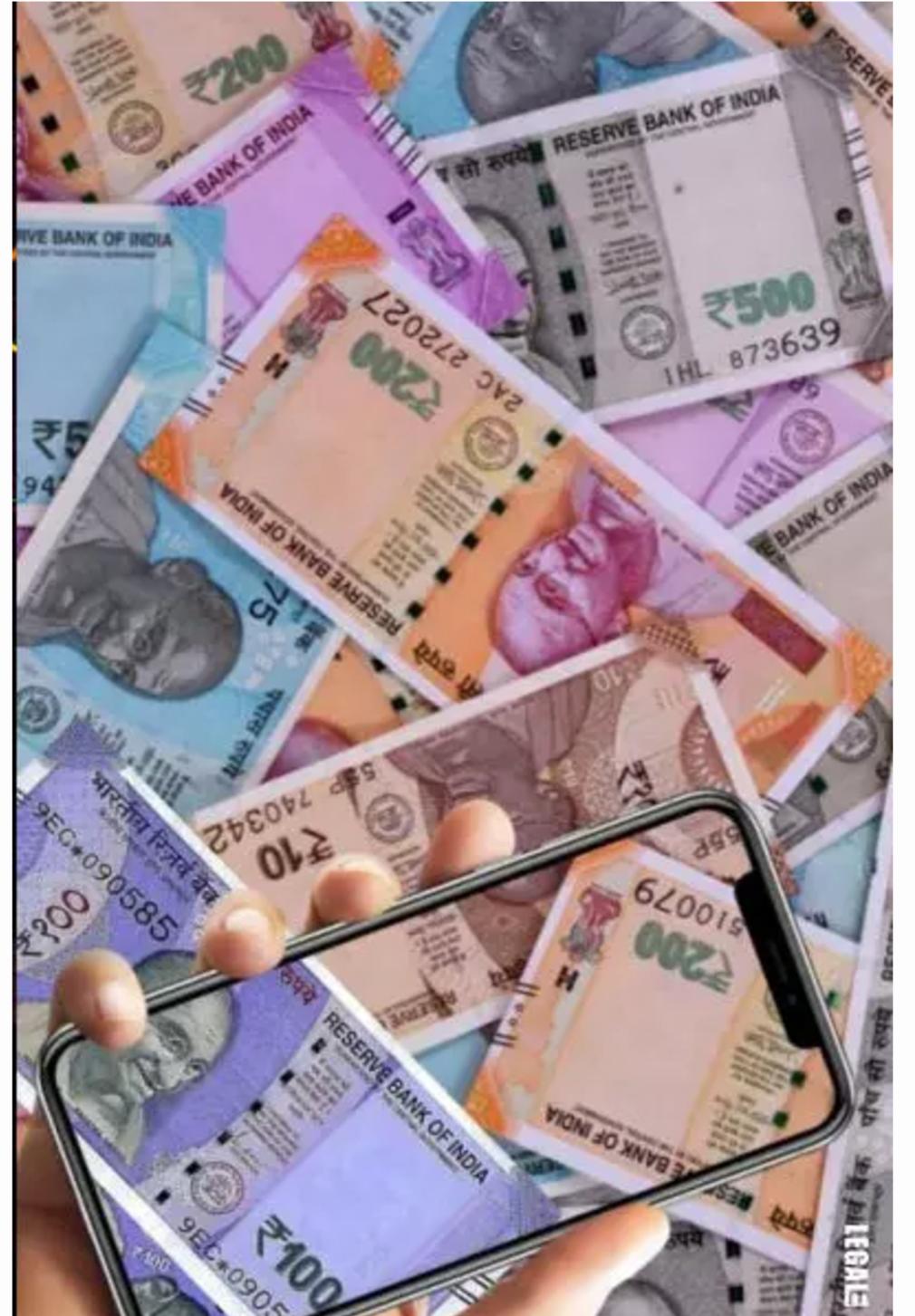
ANUSHKA PAWAR



The Challenge of Currency Identification

Key Problem:

- ◆ Visually impaired individuals struggle to distinguish different Indian currency notes.
- ◆ Tactile marks on notes fade over time, making them unreliable.
- ◆ Existing solutions are inaccessible, slow, or require internet connectivity.



Major Limitations of Current Solutions

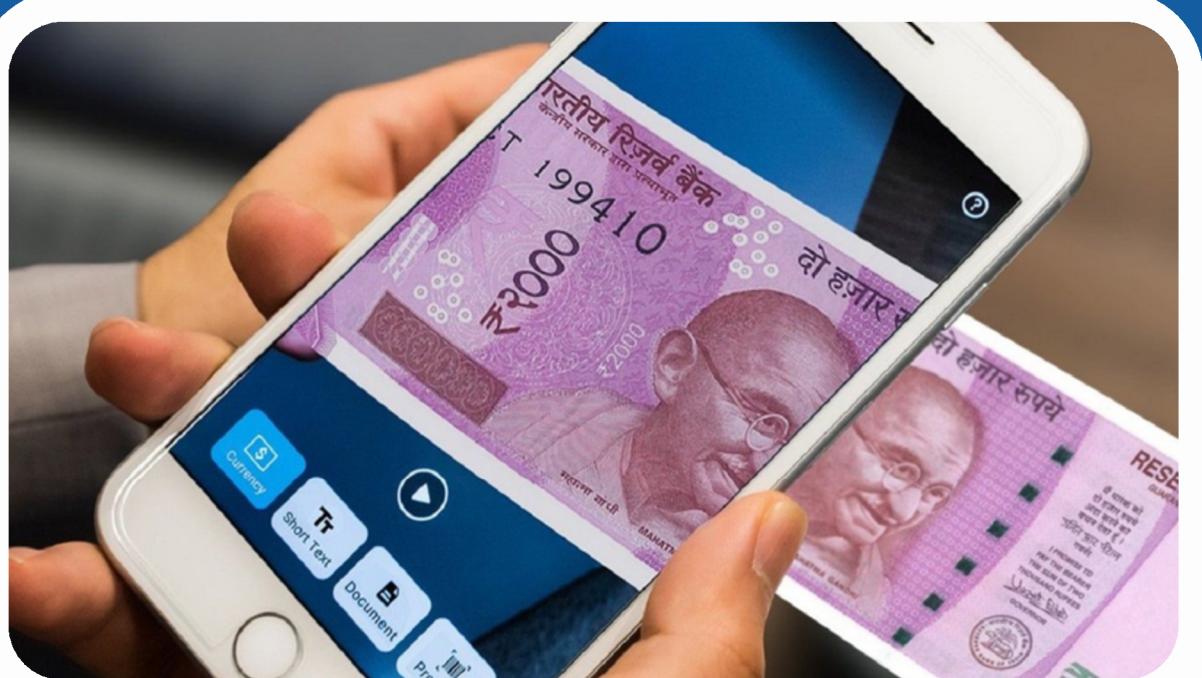
- **Internet Dependency:** Many apps require an internet connection, making them unreliable in rural areas.
- **Inconsistent Detection:** Some apps struggle with poor lighting and folded/damaged notes.
- **Not Blind-Friendly:** Most apps lack real-time voice guidance, requiring users to rely on additional help.



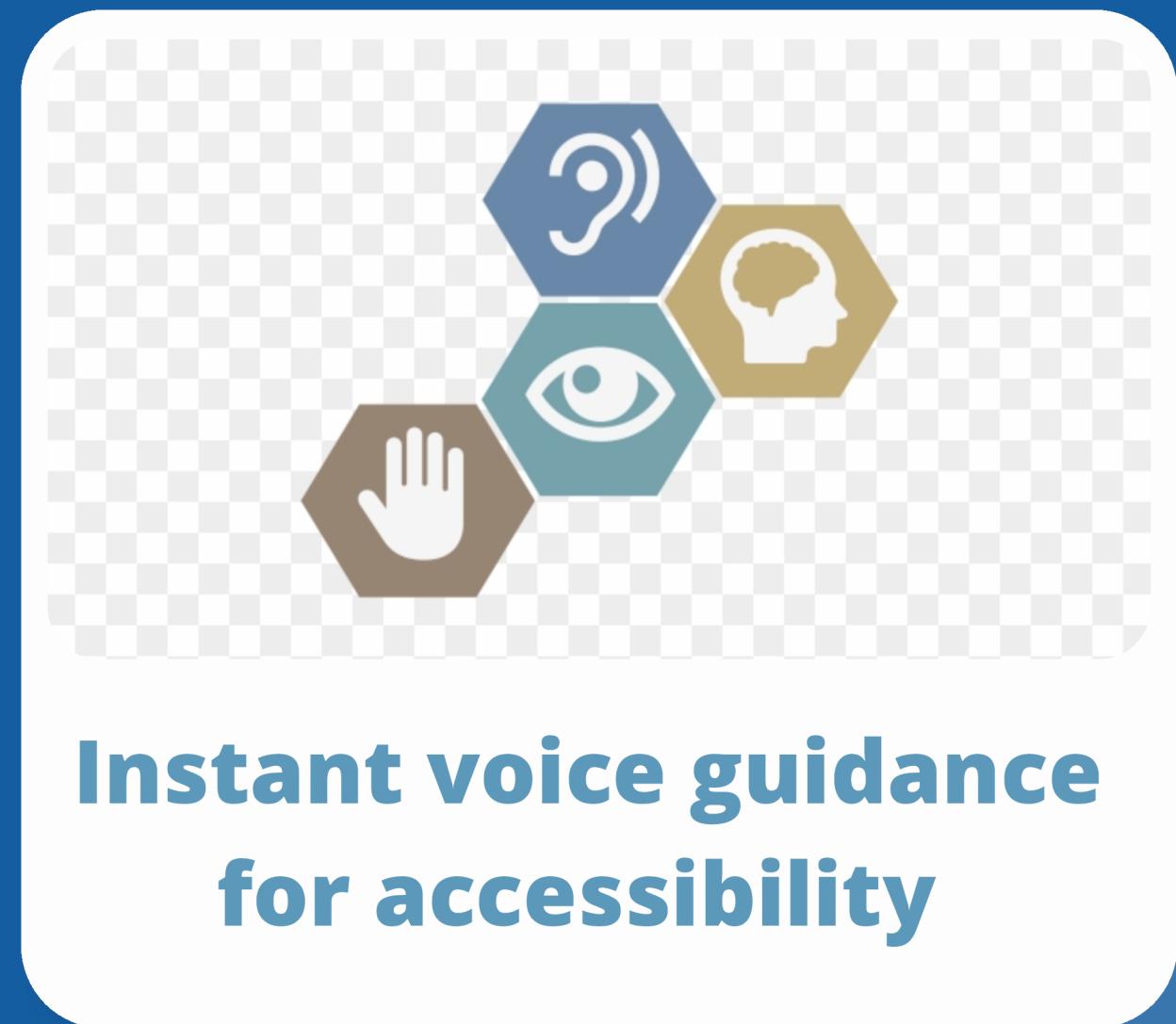
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Drishti MANI

An AI-powered solution that empowers the visually impaired!

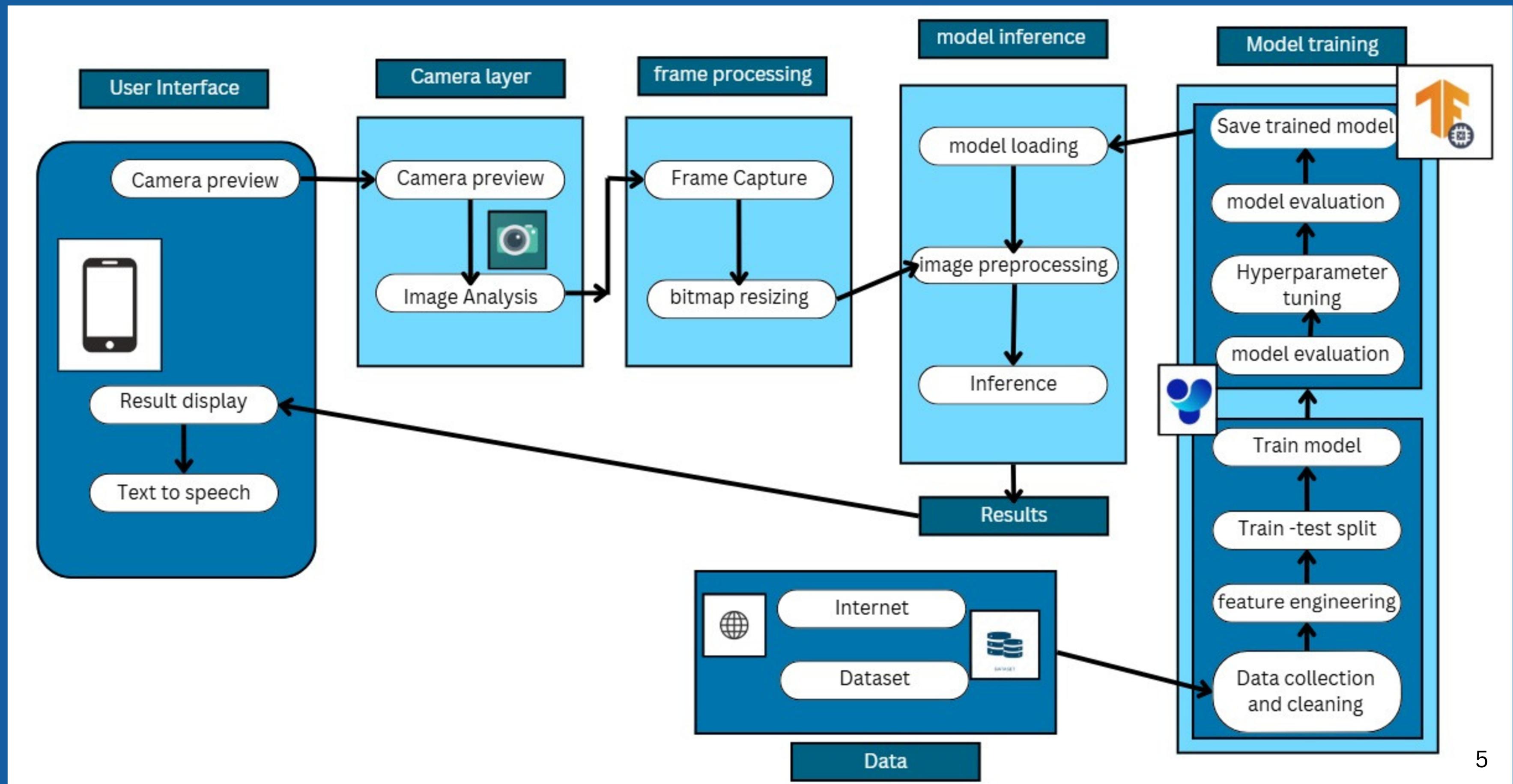


**Real-time currency
detection**



**Instant voice guidance
for accessibility**

Architectural Diagram

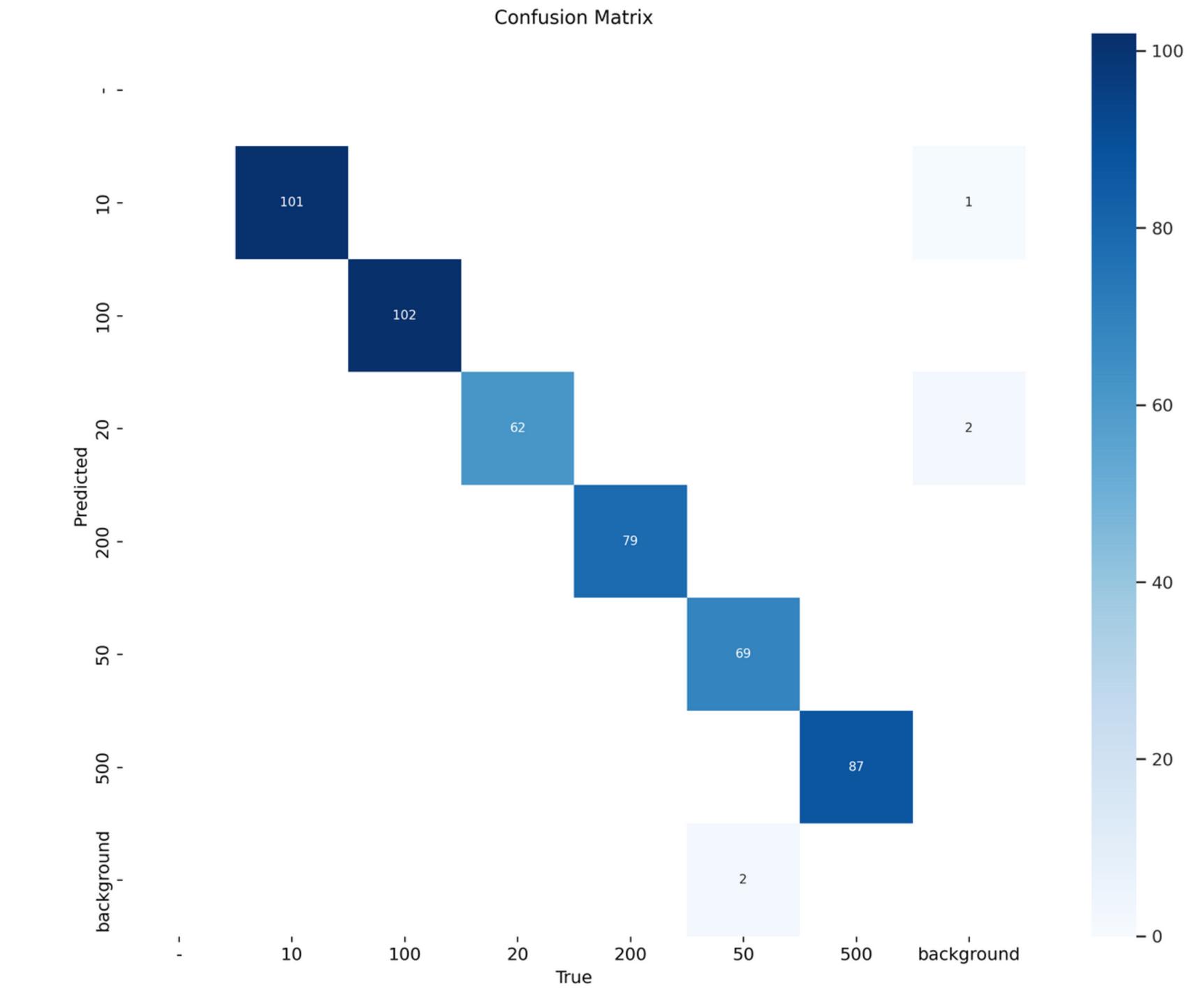


YOLO v8 Model Training

- Loads a pre-trained YOLOv8 Nano model.
- Uses a custom dataset specified in data.yaml.
- Trains the model for 50 epochs with batch size 1
- Resizes images to 640x640.
- Uses GPU 0 for training, leveraging faster computation.

Model Results:-

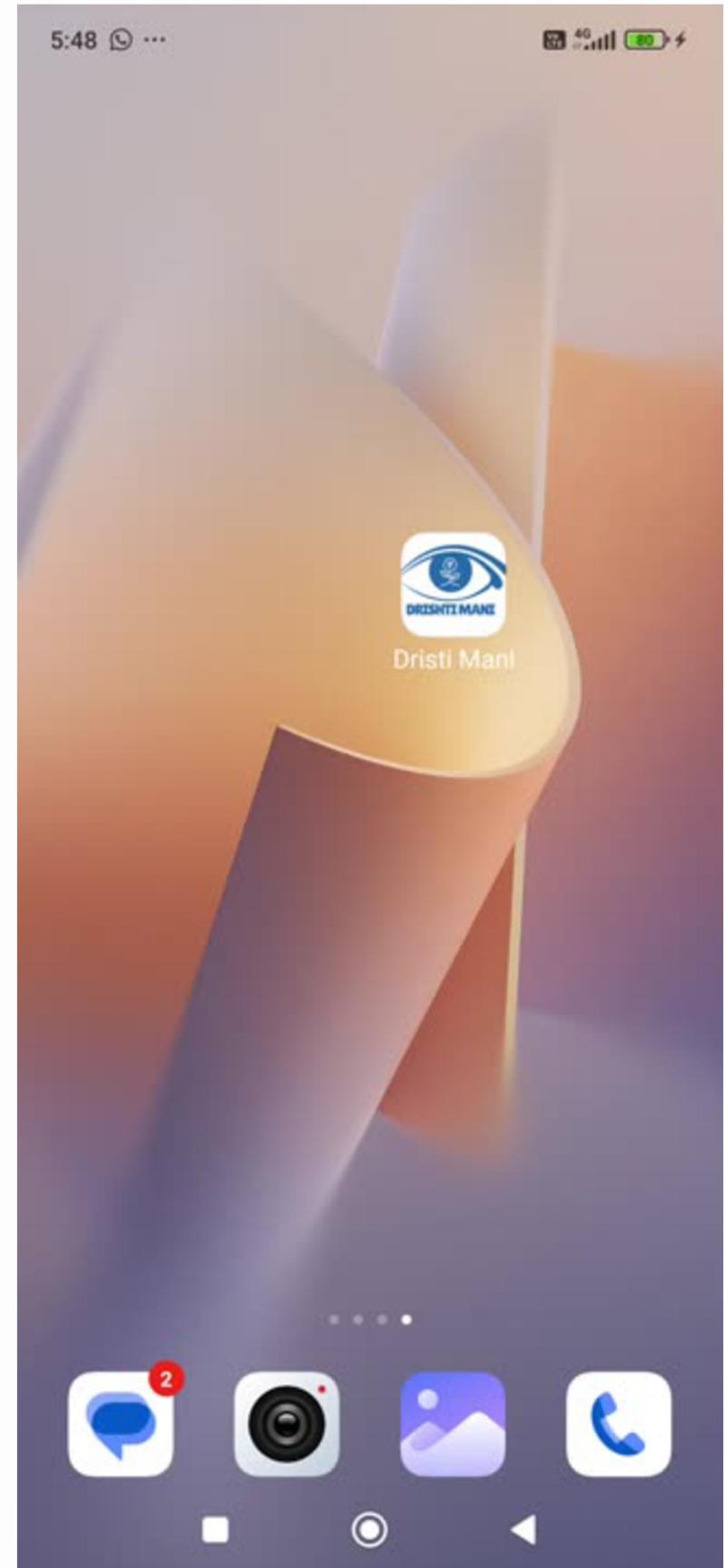
Precision (B): 0.9932 (99.32%)



FEATURES OF THE SMART CURRENCY DETECTION APP

- **In-App Voice Guidance** – Announces the detected denomination for seamless accessibility.
- **Multi-Language Support** – Supports 5 regional languages:
 - English, Hindi, Marathi, Kannada, Gujarati
- **Fast & Accurate Detection** – YOLOv8-powered real-time currency identification.

DEMO VIDEO



Technology Stack

Frameworks & Tools Used:

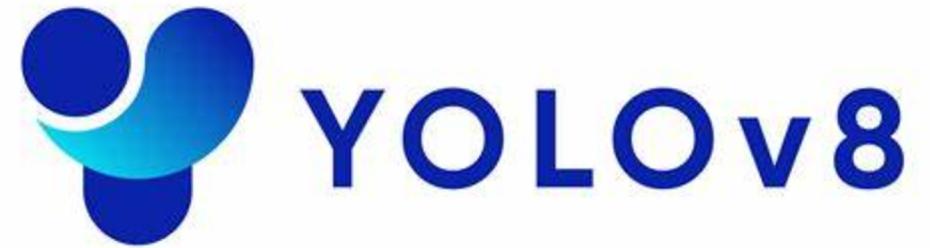
 **Android (Kotlin + CameraX API)** – Captures real-time images 

 **TensorFlow Lite (YOLOv8 Model)** – Detects and classifies currency notes 

 **Text-to-Speech API** – Provides instant voice feedback 



android studio

The YOLOv8 logo features a blue and white abstract geometric shape followed by the text 'YOLOv8' in a bold, blue, sans-serif font.

FUTURE SCOPE: EXPANDING BEYOND MOBILE

 **Multi-Language Support – Expanding to more Indian & global languages for wider accessibility.**

 **AI-Driven Detection – Enhancing accuracy with continuous learning & real-time model updates.**

 **Integration with Smart Vision Glasses –**

- Embedding this technology into wearable smart glasses.
- Hands-free currency detection with instant audio feedback.
- Real-time assistance without needing a smartphone.

**THANK
YOU**