



IMAGE-BASED BREED RECOGNITION FOR CATTLE OF INDIA

Siddharth S - 22BAI1099
Fakir Aaqil Parvez - 22BAI1092



PROBLEM STATEMENT

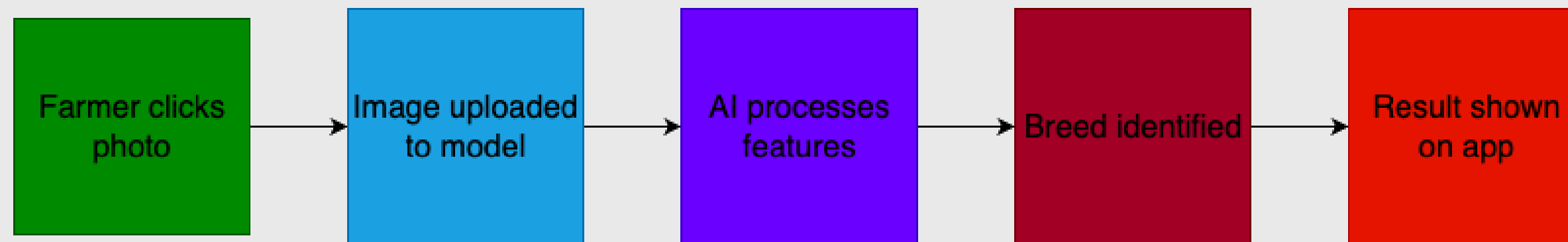
- Farmers in India face difficulty identifying breeds of cattle and buffaloes.
 - Each breed has unique qualities (milk yield, disease resistance, productivity).
 - Misidentification leads to poor breeding, health issues, and financial losses.
-



PROPOSED SOLUTION

- Data Collection: Gather thousands of labeled cattle & buffalo images.
 - AI Model Training: Train AI to identify breeds.
 - Mobile App: Farmers click a photo → AI predicts breed.
 - Multilingual Feature: Farmers can use the app in regional languages for accessibility.
-

SYSTEM WORKFLOW





FEATURES OF THE APP

- Camera Integration: Snap & upload animal photo.
 - AI-Powered Recognition: Detects cattle/buffalo breed.
 - Scalable Database: Improves with more data.
 - Farmer-Friendly UI: Simple, local-language support.
-




TECHNOLOGY STACK

- Frontend: Mobile App (React Native).
- Backend: FastAPI.
- AI/ML: CNN-based deep learning (PyTorch).
- Database: Indian Bovine Breeds kaggle dataset (open source).





IMPLEMENTATION & FEEDBACK

- Launch app for farmers across India.
 - Collect feedback on accuracy & usability.
 - Continuously expand database with new images.
 - Improve AI and language support with updates.
-
- 

IMPACT & BENEFITS

- Empower farmers with easy, reliable breed identification.
 - Increase productivity & income by informed breeding decisions.
 - Multilingual feature ensures inclusivity across diverse regions.
 - Supports Agriculture, FoodTech & Rural Development goals.
-

FUTURE SCOPE

- Increase dataset size & diversity.
 - Integration with veterinary & government databases.
 - Advanced features: health monitoring, milk yield prediction.
-

The image features abstract line art in the top-left and bottom-left corners. These elements consist of numerous thin, dark grey lines that curve and sweep across the page, creating a sense of movement and depth. The lines are more densely packed in some areas, forming soft, cloud-like shapes, while in others, they are more sparse and delicate.

THANK YOU
