IMAGE-BASED BREED RECOGNITION FOR CATTLE OF INDIA

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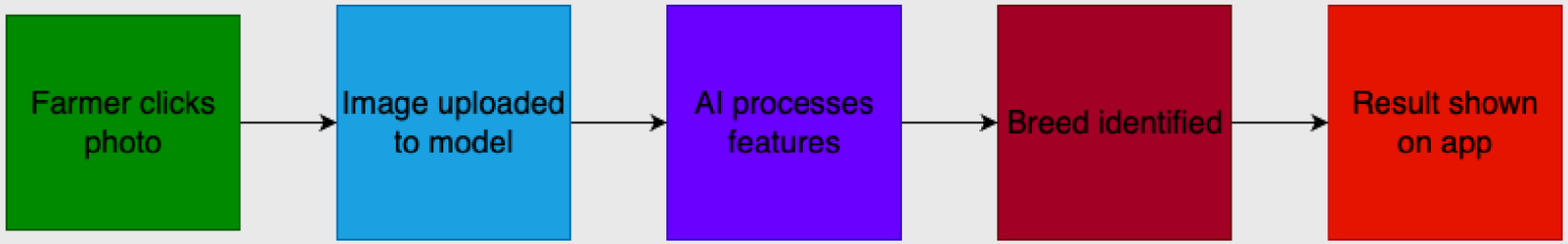
PROBLEM STATEMENT

- 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.

THANK YOU