**🚀 Final Roadmap (AI-Based Grievance Analyzer)**

**Goal: End-to-End Demo-Ready System in 5 Days**

**Team Division**

* **Person A (ML Lead):** Text classification (categories), urgency detection.
* **Person B (ML + Integration):** OCR + ASR integration + preprocessing.
* **Person C (Backend):** FastAPI backend, DB integration.
* **Person D (Frontend):** React UI for citizens + officials dashboard.

**Day-Wise Plan**

**Day 1: Setup & Dataset**

* Collect/create complaint dataset (CSV with: text, category, urgency, location).
* Person A: Train baseline classifier (TF-IDF + Logistic Regression).
* Person B: Test Tesseract (OCR) and Vosk (ASR) on sample inputs.
* Person C: Setup FastAPI skeleton (endpoints for classify, submit, fetch).
* Person D: Setup React skeleton (form + dashboard UI).  
  👉 Deliverable: Baseline ML works + basic backend/frontend running.

**Day 2: Core ML Development**

* Person A: Train improved classifier (IndicBERT or XLM-R).
* Person B: Build urgency detector (keyword + classifier).
* Person C: Connect ML model with FastAPI API.
* Person D: Build citizen form (text, image, audio upload UI).  
  👉 Deliverable: ML API returns categories + urgency with good accuracy.

**Day 3: Integration**

* Person A & B: Integrate OCR + ASR → text → classification.
* Person C: Connect SQLite DB → store complaints, status.
* Person D: Show submitted complaints in citizen view.  
  👉 Deliverable: Complaint submission (all 3 inputs) → classification → DB storage.

**Day 4: Dashboard & Routing**

* Person A: Add location extraction (NER or regex for pin codes).
* Person B: Test full pipeline with different complaint types.
* Person C: Add routing logic (e.g., Water Dept, Electricity Dept).
* Person D: Officials dashboard → filter by category/urgency, update status.  
  👉 Deliverable: Officials can view, filter, and update complaints.

**Day 5: Polish & Demo**

* Add urgency highlighting (e.g., 🔴 High priority).
* Simulate notifications (print/email log).
* UI polish: department tabs, complaint timeline.
* Test end-to-end with sample inputs.
* Prepare **slides + demo script + report**.  
  👉 Deliverable: Complete working system, presentation-ready.

**Output After 5 Days**

✔ ML models (category + urgency detection).  
✔ OCR + ASR integrated pipeline.  
✔ Web app (citizen submission + officials dashboard).  
✔ SQLite DB with complaint tracking.  
✔ Routing + urgency + simulated notifications.  
✔ Demo video + presentation slides.