**🚀 SaaS Transition Roadmap for Your AI Phishing Detection Platform**

**✅ PHASE 1: Core System (You’re here)**

**Goal**: Get detection working accurately with clean APIs and simple frontend.

**🎯 Backend (FastAPI + MongoDB)**

* ✅ Email text phishing model (.pkl) with confidence
* ✅ Sender email + URL heuristics + VirusTotal/PhishTank API
* ✅ Optional: web content analysis
* ✅ Combine all in /analyze endpoint
* ✅ Store logs in MongoDB (input + verdict)

**🎯 Frontend (React)**

* ✅ Input form
* ✅ Result display
* ✅ Spinner, error handling
* ✅ Login + Register (MongoDB)
* 🔒 ProtectedRoute

**📦 PHASE 2: SaaS-Ready Architecture**

**🔐 Auth System**

* Add JWT token-based login (replace localStorage hack)
* Role support: admin, user
* Optional: Google/GitHub login (OAuth)

**📊 User Dashboard (per user)**

* Show analysis history (from MongoDB)
* Limit # of requests (basic quota system)
* Profile section: update name, photo, contact

**📊 PHASE 3: Admin Panel (Optional via Node.js or React Admin)**

* View all registered users
* Moderate flagged phishing results
* Configure system settings (API keys, thresholds)
* Export logs
* Add usage analytics (requests/month, users/plan)

**🔗 PHASE 4: Integrations**

| **Target** | **How to Add** |
| --- | --- |
| ✅ Chrome Extension | Calls /analyze with text/URL |
| ✅ Gmail Add-on | Google Apps Script → calls API |
| 🔜 Outlook Add-in | Office.js Add-in → calls API |
| ✅ Email webhook | Parse incoming email, auto-check it |

**💵 PHASE 5: Monetization & SaaS Tiering**

**Plans:**

* Free: 10 requests/day, community support
* Pro: ₹199/month — 1,000 checks/month
* Enterprise: custom plans, API access

**Features to Build:**

* Billing system (Stripe or Razorpay)
* Usage tracker per user
* Email notifications (weekly summary)
* Admin dashboard for subscription management

**☁️ PHASE 6: Deployment & Scaling**

| **Layer** | **Platform** |
| --- | --- |
| API | Render.com / Fly.io |
| MongoDB | MongoDB Atlas (free cluster) |
| Frontend | Vercel or Hostinger (static site) |
| Chrome Add-on | Chrome Web Store |
| Email Add-on | Google Marketplace (Gmail add-on) |

**Optional:**

* Use Docker for portability
* Add rate limiter (to avoid abuse)
* Add Celery if needed for async tasks (e.g., VirusTotal delay)

**🎁 Bonus Phase: Productization**

* Add custom webhook API for brands (e.g., "check our emails")
* Branding tools: API keys, custom domain support
* Creator SDK: “embed phishing scanner in your own site”

**🛣 Suggested Timeline**

| **Week** | **Focus** |
| --- | --- |
| 1 | Finalize detection + frontend |
| 2 | Add user accounts, JWT, Mongo logs |
| 3 | Create dashboard + Chrome extension |
| 4 | Build admin panel (if needed) |
| 5 | Deploy to Render + Vercel |
| 6 | Add billing + usage limits |
| 7+ | Polish, test, release 🔥 |