Ultimate Master Project Document – Real Estate Vision AI (First Person)

Project Vision

I am leading a project called **Real Estate Vision AI** with a team consisting of four high school students (including myself) and 7 **experts in the real estate/AI space along with design and other fields**. Our goal is to build a platform where a user enters a property address and instantly receives a **detailed AI-generated property analysis report in PDF**. This report will include:

- Property valuation (current and projected).
- Comparable property analysis.
- Neighborhood insights (schools, crime rates, transportation, amenities).
- Investment potential (rental yield, cap rate, ROI).
- Optional property photo analysis for condition assessment.

We plan to **monetize** this by charging clients per PDF report.

Team Structure & Roles

- **Me (Adi):** Founder, project lead, and visionary. Responsible for strategy, business development, and client outreach.
- **Two high school teammates:** Focus on research, data gathering, front-end development, and deployment support. They are **not ML experts** but are **highly motivated and willing to learn**.
- **Expert collaborator:** Provides guidance on real estate data interpretation, technical mentoring, and quality control.
- **ChatGPT (GenAI professional, Oracle-certified):** Handles all AI/ML responsibilities, including:
- Regression and predictive modeling for property valuation.
- Time-series forecasting for market trends.
- Computer vision for photo/property analysis (optional).
- Generating deployment-ready code for cloud or Jetson Nano.
- Integrating AI models with backend APIs and PDF generation.

Technical Setup

- **Hardware:** NVIDIA Jetson Orin Nano (8GB) at my house for prototyping and offline premium analysis.
- **Cloud:** Oracle Cloud (or alternatives like AWS/GCP) for scalable deployment.
- **Website:** User-friendly frontend where users input addresses → backend API calls AI models → output PDF report.
- **Data Requirements:**

• Historical property sales.
• Lot size, building info, zoning.
• Neighborhood information (schools, crime, amenities).
• Optional property photos for analysis.
• **AI/ML Models:**
• Regression, Random Forest, or small neural networks for valuation.
• Forecasting models for ROI and market trends.
• Computer vision models for property condition assessment (if photos are provided).

Workflow & Functionality

1. User inputs property address or basic info.
2. Backend queries datasets and/or APIs for relevant property/neighborhood data.
3. AI models generate valuation, ROI, and neighborhood insights.
4. PDF report is generated with charts, tables, and maps.
5. Optional: premium users can process multiple images or run offline Jetson-powered analyses.
6. Results delivered instantly for MVP-scale users; cloud deployment allows scaling to hundreds of clients.

Timeline & Milestones

September 2025:

• Team setup and roles defined.
• Dataset collection and cleaning begins.
• Jetson Nano configured for prototyping.

October – November 2025:

• Initial ML models built (regression, forecasting).
• Backend integration with sample PDF generation.
• Internal testing and validation.

December 2025 – January 2026:

• MVP launch for small group of beta users.
• Team learns to run models and deploy reports.
• Collect user feedback, refine PDF design and AI outputs.

February – June 2026:

• Cloud deployment for scalability.
• Improved AI models for more accurate predictions.
• Photo analysis integration and optional premium Jetson offline feature.

Summer 2026:

- Limited paid launch, early adopter feedback, scaling plan.

2027:

- Full launch, supporting many clients concurrently, scaling further.

Time Commitment

- **Students:** \~5–7 hours/week.
- **Expert:** \~2 hours/week for mentoring and quality control.
- **ChatGPT:** Handles heavy ML/AI workload, pipelines, and deployment guidance.

Realistic Expectations

- Jetson Nano can handle 3–5 heavy concurrent reports, 10+ light reports.
- Accuracy of AI depends on dataset quality: more complete historical and neighborhood data → better predictions.
- Students will **learn ML on the job**, using pre-built models and guided instruction.
- Cloud scaling will eventually allow handling many clients, removing local hardware limitations.

Benefits of Approach

- Students focus on **data, UI, and business**, not low-level ML coding.
- Expert ensures **quality and realism** in real estate predictions.
- ChatGPT as a **GenAI professional, Oracle-certified**, handles heavy AI/ML and deployment architecture.
- Lean start with Jetson + path to cloud ensures **cost-effective scaling**.
- Step-by-step, phased learning approach keeps high schoolers productive without overwhelming them.

Deliverables Expected from ChatGPT

- Production-ready ML models (regression, forecasting, vision).
- Pre-trained pipelines ready for deployment on Jetson or cloud.
- PDF generation scripts/templates.
- Step-by-step guidance for integrating datasets, APIs, and backend workflows.
- Advice on scaling and handling multiple clients.

Visual Roadmap