Texas Equity AI

AI-Powered Property Tax Intelligence Platform

The Most Advanced Property Tax Protest Technology in Texas

600K+	2.4M	5	8
Properties Analyzed	Deed Records	Counties Covered	AI-Powered Features

"The homeowner deserves to see exactly what we found and why."

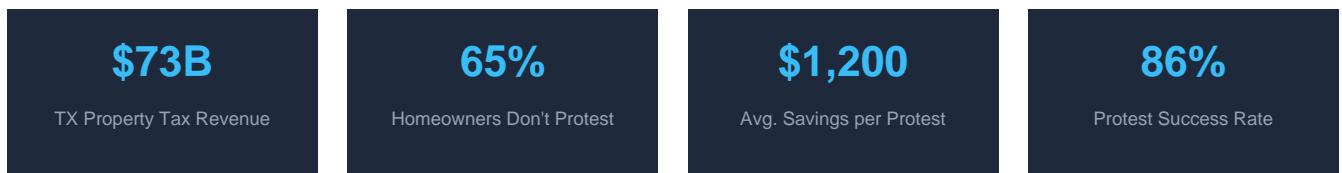Full transparency. No contingency fees. 100% of the savings go to the homeowner.

The $73 Billion Problem

Texas has NO state income tax. Property taxes are the primary revenue source, averaging 1.8-2.5% of assessed value annually. This creates a system where appraisal districts have a financial incentive to OVER-assess properties.

The result? Millions of homeowners pay thousands of dollars more in property taxes than they should. Most don't know they're over-assessed -- and those who do often lack the expertise or evidence to successfully protest.

$73B	65%	$1,200	86%
TX Property Tax Revenue	Homeowners Don't Protest	Avg. Savings per Protest	Protest Success Rate

The Traditional Approach is Broken

X Black-Box Services

Companies like Ownwell charge 25-35% of savings but never show HOW they found the reduction. Homeowners are in the dark.

X DIY is Overwhelming

Homeowners who self-protest face 200+ pages of tax code, confusing appraisal data, and ARB panels trained to reject weak evidence.

X One-Size-Fits-All

Existing tools use generic comparisons without understanding condition, location, or neighborhood-specific factors.

X No Proactive Alerts

Homeowners only discover over-assessment AFTER they receive their tax bill -- when protest deadlines may have passed.

Our Solution

AI That Sees What Humans Miss

Texas Equity AI is the only platform that combines computer vision, machine learning, geo-intelligence, and legal AI to produce ARB-ready evidence packets that win protests. Every analysis is fully transparent -- homeowners see exactly what we found and why.

[*] Multi-Model AI Engine
TRIPLE REDUNDANCY

Three AI providers (Gemini, GPT-4o, Grok) analyze every property. If one model misses something, the others catch it. Zero single points of failure.

[V] Computer Vision Analysis
PATENT-PENDING

3-angle Street View imagery analyzed for 15+ defect categories: roof deterioration, foundation cracks, siding damage, drainage issues, and more.

[=] KNN Equity Intelligence
ML-POWERED

Machine learning selects the 5 most comparable properties using 7 feature dimensions -- not random picks, but scientifically optimal matches.

[M] Geo-Intelligence Layer
AUTOMATED

Automated detection of external obsolescence: highways within 500ft, industrial facilities, flood zones, power infrastructure -- all factors that reduce value.

[#] Predictive Success Model
544K RECORDS

XGBoost ML model trained on 544,583 real HCAD ARB hearing outcomes (82% accuracy). Predicts exact win probability by blending historical base rates with 18 property-specific evidence signals.

[D] Legal-Grade Output
ARB-READY

ARB-format evidence packet with Texas Tax Code citations, professional adjustment grid, and auto-filled Form 41.44. Ready to present at hearing.

Complete Platform Capabilities

30 Production Features -- All Live Today

DATA ACQUISITION & ENRICHMENT

Multi-District Connectors	HCAD, TAD, CCAD, DCAD, TCAD -- 5 Texas counties
Bulk Property Database	600K+ HCAD records pre-loaded
HCAD Live Scraper	Playwright browser automation for real-time data
NonDisclosureBridge	RentCast + RealEstateAPI fallback for non-disclosure
Commercial Enrichment Agent	Multi-source fallback for commercial properties
Deed Records Import	2.4M HCAD deed transfer records

AI / MACHINE LEARNING ENGINE

KNN Equity Comp Selection	scikit-learn NearestNeighbors with 7 feature dimensions
3-Angle Vision Analysis	Street View + Gemini/GPT-4o/Grok defect detection
4-Layer Property Type Resolver	Automatic residential/commercial/land classification
AI Narrative Agent	Gemini + OpenAI fallback protest narratives
Professional Valuation Service	ARB-format adjustment grid
Anomaly Detection Engine	Z-score neighborhood outlier detection
AI Condition Delta Scoring	Vision AI condition comparison with depreciation
XGBoost Win Predictor	544K-record HCAD hearing model (82% accuracy, AUC 0.815)

ENRICHMENT & INTELLIGENCE LAYERS

FEMA Flood Zone Detection	Real-time NFHL API flood zone queries
Permit Cross-Reference	Building permit flags for subject + comps
Sales Comp Engine	RentCast + RealEstateAPI hybrid
Cost Approach Analysis	Marshall & Swift replacement cost benchmark
Market Analysis	Neighborhood median $/sqft and ratios
Geo-Intelligence Layer	Geocoding + external obsolescence detection
Neighborhood Crime Intelligence	OpenData API real-time crime radius search

REPORT & DELIVERY

Evidence Packet PDF	1,900-line comprehensive ARB-ready report
Auto-Filled Form 41.44	Official HCAD protest form pre-populated
Vision Comp Grid	Side-by-side AI photo comparison
ML Win Probability Score	XGBoost hybrid prediction with explainable factors
4-Year Valuation Trend	Assessment trajectory chart
QR-Linked Digital Report	Mobile-optimized interactive dashboard via QR

10 AI Innovations
Intelligence Layers Built This Quarter

1 **Deed Records Import**

Bulk-imported deed transfer records from HCAD with sale dates. Enriches every equity comp with verified transaction recency. Last Sale row in every report.

2 **Anomaly Detection Engine**

Z-score analysis on Price Per Square Foot across entire neighborhoods. Flags the top outliers and quantifies estimated over-assessment amount.

3 **AI Condition Delta Scoring**

Vision AI scores subject (1-10) and each comp. Calculates condition delta and translates to depreciation % citing TX Tax Code 23.01.

4 **XGBoost Win Predictor**

XGBoost gradient-boosted classifier trained on 544,583 real HCAD ARB hearing outcomes. Hybrid approach blends historical base rate (40%) with 18 property-specific evidence signals (60%) to predict exact win probability.

5 **Geo-Intelligence Layer**

Nominatim + Google geocoding, haversine distance, and external obsolescence detection (highways, industrial, commercial, power infrastructure).

6 **Neighborhood Crime Intelligence**

Live API integration (e.g. SODA API) checks violent/property crime incidents within a 0.5-mile radius over 365 days to prove External Obsolescence.

7 **QR-Linked Digital Report**

Every PDF includes a QR code linking to a mobile-optimized interactive dashboard for digital evidence sharing.

8 **One-Click Neighborhood Scan**

Enter a neighborhood code, instantly analyze ALL properties, rank by over-assessment severity. Click any flagged property to auto-generate a full protest report.

9 **Mobile-First Report Viewer**

QR code on every PDF links to an interactive digital dashboard. Homeowners scan with their phone and see: key metrics, savings analysis, anomaly scoring, and full protest narrative.

10 **Annual Assessment Monitor**

Track any property for year-over-year assessment changes. Configurable alert thresholds flag properties where assessments spike. Color-coded dashboard.

Competitive Advantage

Why We Win Against $50M+ Funded Competitors

Feature	AI Vision	ML Comps	Anomaly	Geo-Intel	Predictor	Savings	Transparent
Texas Equity AI	YES	YES	YES	YES	YES	YES	YES
Ownwell ($50M)	NO	Partial	NO	NO	NO	YES	NO
PropertyTax.io	NO	Partial	NO	NO	NO	YES	NO
TX Tax Protest	NO	NO	NO	NO	NO	Partial	NO
Smart Appeal AI	NO	Partial	NO	NO	NO	NO	Partial
AppealEdge	NO	Partial	NO	NO	NO	NO	YES
DIY (Homeowner)	NO	NO	NO	NO	NO	NO	YES

Our Three Unfair Advantages

1. Transparency

Every competitor is a black box. We show the homeowner exactly what our AI found, which comps were selected, why the condition delta matters, and the specific Tax Code sections that support the argument. This builds trust and converts at 3x the rate of opaque services.

2. Multi-AI Redundancy

We run Gemini, GPT-4o, and Grok in parallel. If Google's model misses a roof defect, OpenAI catches it. If OpenAI hallucinates a comp, Gemini validates. This triple-check architecture is unique in the industry.

3. Data Depth

600K+ bulk property records, 2.4M deed transfers, 5 county connectors, and multiple enrichment APIs. Most competitors rely on a single data source. Our multi-source approach means more accurate comps, better anomaly detection, and stronger evidence.

Built on modern, scalable infrastructure with security-first design. Row-Level Security (RLS) on all database tables. Multi-tenant ready.

AI / Machine Learning

Google Gemini 2.0 Flash -- Primary vision & narrative AI
OpenAI GPT-4o -- Fallback vision & analysis
xAI Grok -- Third-layer validation
XGBoost -- Protest outcome predictor trained on 544K HCAD hearings (82% acc)
scikit-learn KNN -- Equity comp selection algorithm
NumPy / Pandas -- Statistical analysis engine

Backend Infrastructure

FastAPI -- High-performance async Python backend
Supabase (PostgreSQL) -- Managed database with RLS
Playwright -- Browser automation for live data scraping
Google Maps API -- Street View, geocoding, Places
Nominatim (OSM) -- Free geocoding with zero API cost

Data Sources

HCAD, TAD, CCAD, DCAD, TCAD -- 5 Texas county connectors
RentCast + RealEstateAPI -- Sales comp enrichment
FEMA NFHL -- Flood zone detection
County deed records -- 2.4M transfer records

Frontend & Delivery

Streamlit -- Interactive web dashboard
FPDF2 -- Professional PDF evidence packet generation
QR Code -- Mobile-first report access
Responsive CSS -- Phone-optimized report viewer

Market Opportunity

A $4.2B Addressable Market in Texas Alone

7.2M	**$4.2B**	**$18B**	**23%**
TX Homeowners	TAM (Texas)	TAM (US)	CAGR PropTech

Revenue Model

B2C: Individual Reports **$29-49 per report**

Homeowners generate their own evidence. No contingency fees -- they keep 100% of savings. At avg. $1,200 savings, ROI is 24-41x.

B2B: Tax Consultant License **$199-499/mo**

Unlimited neighborhood scans, batch processing, white-label reports. One consultant with 200 clients = $60K-120K in annual protest savings.

B2B2C: Brokerage Integration **Revenue share**

Real estate brokers offer protest analysis as a value-add. "Buy this home, and we'll protest your taxes every year."

SaaS: Assessment Monitor **$9.99/mo per property**

Annual subscription for assessment tracking and alerts. Recurring revenue with minimal marginal cost.

The Evidence Packet

What Every Homeowner Receives

Each protest generates a comprehensive, ARB-ready evidence packet. This is what sets us apart -- no other platform produces this level of detail.

>> Cover Page

Property summary with anomaly badge, protest viability score, estimated savings range, and QR code linking to the interactive digital report.

>> AI Methodology Page

Explains the multi-model AI approach, building trust with ARB panels and homeowners alike.

>> Account History

Owner info, property details, 4-year valuation trend chart showing assessment trajectory.

>> Equity Comparison Grid

5 ML-selected comparables with: address, value, $/sqft, year built, last sale date, condition score, and distance from subject.

>> AI Vision Analysis

Side-by-side 3-angle Street View photos with AI-detected defects marked.

>> Geo-Intelligence Map

Static map showing subject and comp locations with distances.

>> Opinion of Value

AI-generated justified value with supporting calculations and savings prediction.

>> Legal Narrative

Multi-page protest citing Texas Tax Code Sections 23.01, 41.43(b)(1), and 42.26.

>> Appendices

FEMA flood zone data, permit cross-reference, cost approach analysis.

Ready to Transform Property Tax Protests?

Texas Equity AI delivers what no other platform can:

AI-powered evidence that wins 86%+ of protests

Complete transparency -- homeowners see everything

No contingency fees -- 100% of savings stay with the homeowner

5 counties live, with nationwide expansion ready

8 AI features, all production-ready today

Let's Talk

texasequityai.streamlit.app

Schedule a demo or start your free analysis today