

AI-Assisted Real Estate Underwriting Workflow

A synthetic sample of a local property-analysis tool that turns address-level inputs into a decision packet, while keeping all load-bearing financial facts deterministic, sourced, and reviewable.

Buyer problem

Investor wants to screen single-family rental deals quickly without letting AI invent taxes, rents, or ARV.

Work product

Local web app, Excel proforma, markdown memo, source audit, and Claude research handoff.

Data status

Generic address and synthetic outputs. No client deal records.

1. Workflow Design

The tool was designed around a hard boundary: AI can help research missing facts, but it cannot silently change the underwriting model. The production path uses user inputs, bundled public databases, deterministic lookup logic, and human-approved overrides.

INPUT BURDEN 5 Address, price, ARV, rehab, beds	ARTIFACTS PER RUN 4 Memo, Excel, JSON audit, PDF	VERDICT CONTROL Block No verdict if a fact is missing	RESEARCH MODE Review Human approval required
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Step	System behavior	Control point
Deal intake	User enters address, purchase price, ARV, rehab, bedroom count, and optional assumptions.	Draft deal record, no recommendation yet.
Source lookup	Engine checks HUD FMR, ZIP-county mapping, parcel tax, rent sanity check, and overrides.	Every value carries provenance.
Underwrite	Model calculates cap rate, cash-on-cash, DSCR, IRR, price-to-ARV, refi, and exit proceeds.	Thresholds are explicit and editable.
Research handoff	If a value is missing, the app generates a Claude research prompt and validates returned JSON.	Nothing saves until the user approves source-backed values.

2. Decision Packet

The output is a packet that a real estate investor can read without opening the model, while still preserving the audit trail behind every number.

Sample Verdict

Metric	Value	Status
Cap rate	9.6%	Pass
Cash-on-cash	9.7%	Watch
DSCR	1.24x	Watch
Levered IRR	16.1%	Pass
Price / ARV	52%	Pass

Bid Ladder

Scenario	Price	Read
Max bid	\$124K	Clears all thresholds.
Stretch bid	\$136K	Requires tighter rent and DSCR diligence.
Do not cross	\$137K	Thresholds start to break.

What Makes It Portfolio-Ready

Feature	Why it matters
Diagnostic-only state	The tool suppresses recommendations when a critical source is unresolved.
Source audit JSON	A reviewer can trace rent, tax, ZIP, county, and property facts back to source attempts.
Deterministic questions	Diligence questions are triggered by model state, not prose generation.
Excel companion	The same inputs produce an attachable proforma for lender or partner review.

3. AI Review Gates

The AI-assisted layer is useful because it is constrained. Claude can gather missing public evidence or review a model packet, but the decision engine remains rules-based.

Gate	Allowed AI work	Blocked AI work
Research prompt	Find source URLs for missing tax, rent, property facts, and comparable context.	Inventing facts or writing directly into the model.
Validation screen	Return structured JSON with value, source name, source URL, confidence, and notes.	Saving values without human review.
Model review	Audit formulas, source coverage, edge cases, and packet readability.	Changing thresholds or recommendation rules silently.
Client packet	Draft plain-language explanation after the model calculates the answer.	Changing cap rate, DSCR, IRR, or cash flow outputs.

Best-fit proposal use: attach this for real estate underwriting tools, calculator builds, Excel-to-web workflows, Claude/AI workflow design, and any job where the client wants automation without losing source control.