

# AI-Powered Real Estate Deal Analyzer

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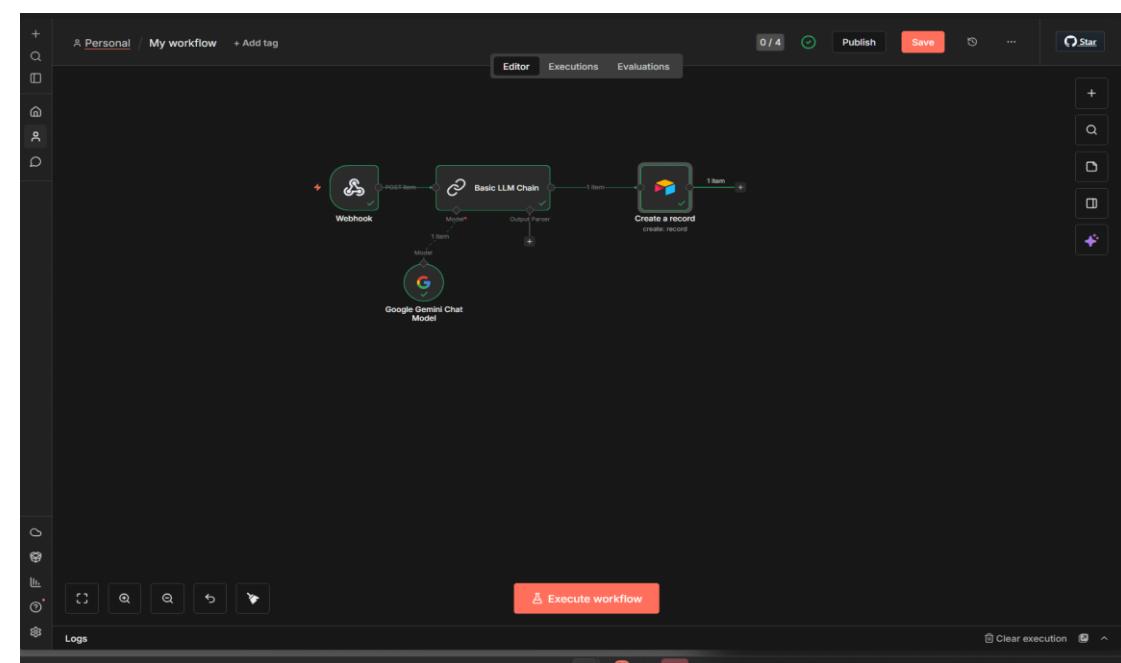
**Project Summary:** An automated pipeline built with n8n, Airtable, and Softr that ingests unstructured property data, analyzes investment viability using Google Gemini AI, and publishes results to a web dashboard.

## 1. System Architecture

The core of this project is an ETL (Extract, Transform, Load) pipeline orchestrated in n8n. The workflow receives data via Webhook, processes it through a custom AI agent, and loads structured data into a relational database.

### Key Technical Decisions:

- **Orchestrator:** n8n (Self-hosted/Cloud).
- **AI Model:** Google Gemini Flash (Chosen for high performance-to-cost ratio vs. OpenAI).
- **Database:** Airtable.
- **Frontend:** Softr.
- **Workflow Visualization:**



#### 4. Frontend User Experience (Softr):

The client-facing dashboard is built on Softr, fully integrated with the Airtable backend to ensure real-time data synchronization.

- **Dynamic Visualization:** As shown in the figures below, the dashboard automatically renders visual tags ('BUY', 'PASS', 'HUMAN REVIEW') based on the AI's logic.
- **User Interface:** Investors can instantly see key metrics like Price and Summary without needing to access the raw database. This separation of concerns ensures data security while providing a clean user experience.

The screenshots demonstrate the Softr-based client-facing dashboard, showing a list of properties and a detailed view of one property.

**Top Screenshot (List View):**

Property Name	Price	Status
Riverfront Cottage	530,000	PASS
Historic Townhouse	950,000	PASS
Downtown High-Rise	980,000	PASS
Beachside Bungalow	1,200,000	PASS
Country Farmhouse	390,000	HUMAN REVIEW

**Bottom Screenshot (Search Result):**

Welcome, Praveen V

Category	Category	Category
Praveen Villa Great Views	BUY	Praveen Villa is for sale at \$281,000, requires \$28,101 for roof repairs, offers great views, and is explicitly permitted...

#### 5. Database & Logic Verification (Airtable):

Airtable serves as the central relational database. The schema is designed to enforce data types (Currency, Boolean, Text) for consistency.

Evidence of Success: The screenshot below demonstrates the system's robust error handling in action:

- Row 20 & 21 ('Praveen Cabin'): Correctly parsed financial data and assigned a 'BUY' verdict based on the \$400k threshold.
- Row 17 & 18: The system successfully detected missing pricing information and triggered the 'HUMAN REVIEW' flag, preventing automated errors.

	A Property Title	\$ Asking Price	\$ Renovation Estimate	Is Airbnb Legal?	AI Verdict	AI Summary	A Location
5	Mountain Cabin Retreat	\$480,000.00	\$80,000.00	green checkmark	orange HUMAN REVIEW		Asheville, NC
6	Urban Condo	\$720,000.00	\$60,000.00	green checkmark	green BUY	Required field(s) are...	Denver, CO
7	Suburban Family Home	\$540,000.00	\$40,000.00	green checkmark	orange HUMAN REVIEW		Plano, TX
8	Lakefront Villa	\$1,350,000.00	\$250,000.00	green checkmark	green BUY		Lake Tahoe, NV
9	City Studio	\$410,000.00	\$30,000.00	red PASS	red PASS	Required field(s) are...	Portland, OR
10	Country Farmhouse	\$390,000.00	\$70,000.00	green checkmark	orange HUMAN REVIEW		Hudson Valley, NY
11	Downtown High-Rise	\$980,000.00	\$90,000.00	red PASS	red PASS	Required field(s) are...	Chicago, IL
12	Desert Modern Home	\$670,000.00	\$110,000.00	green checkmark	green BUY		Palm Springs, CA
13	Ski Chalet	\$1,150,000.00	\$180,000.00	green checkmark	green BUY		Breckenridge, CO
14	Historic Brownstone	\$1,250,000.00	\$220,000.00	green checkmark	green BUY	Required field(s) are...	Boston, MA
15	Riverfront Cottage	\$530,000.00	\$60,000.00	green checkmark	red PASS		Fredericksburg, TX
16	Spacious Downtown Cond...	\$320,000.00	\$65,000.00	green checkmark	green BUY	{...}	
17	Awaiting Property Descripti...	\$0.00	\$0.00	green checkmark	orange HUMAN REVIEW	Please provide a...	
18	Awaiting Property Descripti...	\$0.00	\$0.00	green checkmark	orange HUMAN REVIEW	No property descriptio...	
19	Charming 2-bedroom bun...	\$350,000.00	\$30,000.00	green checkmark	green BUY	A charming 2-bedroo...	
20	Praveen Cabin	\$280,000.00	\$28,000.00	green checkmark	green BUY	Run agent	
21	Praveen Villa Great Views	\$281,000.00	\$28,101.00	green checkmark	green BUY	Praveen Villa is for sale...	

## Conclusion:

This project successfully demonstrates an end-to-end ETL (Extract, Transform, Load) pipeline that leverages Generative AI to automate complex real estate investment analysis with high accuracy and fault tolerance.