

AI for Real Estate: Practical Foundations Workshop

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TU Professional Development Workshop, October 2025



Session Goal

Workshop Objective

Give real estate professionals a practical and effective foundation that improves output quality immediately and sets the stage for follow-on workflow build-outs.

Key Outcomes

- Understanding of AI vs AI Agents
- Proper ChatGPT setup and configuration
- Custom instructions and project organization
- Template library for team scaling
- Success metrics and ROI tracking



Why Listen to Me About AI in Real Estate?

Academia

- Ph.D. in Finance/Real Estate, Florida State University (ranked #2 in real estate)
- Assistant Professor, University of Tulsa Collins College of Business
- Program Chair, Future Leaders of ARES

Research & Publications

- 5 peer-reviewed publications in top finance/real estate journals
 - “Optimizing Real Estate Portfolios: The Role of Generative AI” (JREPM, 2025)
- MIT AI x Real Estate Conference (2025)
 - “The Agentic Frontier: Artificial Intelligence in Real Estate”
 - “Artificially Intelligent Sentiment in Real Estate: A Large Language Model (LLM) Approach”
- Four Best Paper Awards (2024)

AI in Action

- Co-founder, Agentic Assets (PhD-led AI consulting firm)
- Building “Orbis” - Agentic RAG for Finance/Real Estate 16,368+ academic papers
- Created [REITfactors.ai](https://reitfactors.ai) - AI-powered REIT analytics

Approach

Combining rigorous academic research with practical AI implementation in real estate markets



Industry Context: AI in Corporate Real Estate

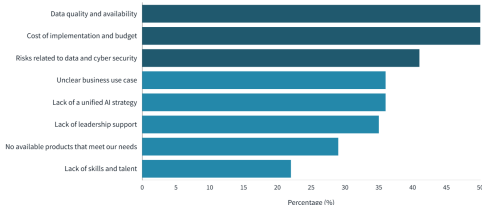
90% of organizations will accelerate investment in AI over the next 5 years



Source: JLL Research, 2024

Source: JLL Research, 2024

Barriers to CRE AI adoption



Source: JLL Research, 2024

Source: JLL Research, 2024



AI – in Plain English

Artificial Intelligence

Systems that learn from data to perceive, reason and act with minimal human direction—covering machine learning, NLP, computer vision and more (EY Standard for Trustworthy AI, 2024).

- **Three things to remember**
 - 1 It trains on *data*—not hand-written rules
 - 2 It gets better the more feedback you give it
 - 3 It works fast and at huge scale, but still needs your judgment
- **What it's not**
 - ▶ A thinking robot—it crunches numbers, it doesn't "feel"
 - ▶ A magic wand—poor data \Rightarrow poor results



Safe Usage: AI in Real Estate

Critical Safety Guidelines

- **AI Makes Mistakes:** Always review and verify outputs
- **No Confidential Data:** Never input client SSNs, financials, or sensitive info
- **Turn Off Data Sharing:** Disable ChatGPT's training data option
- **Not Legal/Financial Advice:** Use for drafting, not final decisions

Best Practices for CRE

- Use property addresses, not tenant names
- Use market data, not client-specific financials
- Generate templates and frameworks, add specifics manually
- AI as first draft, human expertise as final review

How to Disable ChatGPT Training

Settings → Data Controls → Turn off "Improve the model for everyone"



AI vs AI Agents: Understanding the Difference

Traditional AI

- Responds to queries reactively
- Single-turn conversations
- Requires constant human guidance
- Limited to analysis and suggestions
- ChatGPT, Claude, Gemini (current versions)

AI Agents (Next Generation)

- Takes autonomous actions
- Multi-step workflows and planning
- Executes tasks independently
- Creates and manages complex processes
- Orbus, Devin, AutoGPT (emerging)

Real Estate Context

Today: AI helps draft BOV reports and analyze comparables

Tomorrow: AI autonomously generates valuations and identifies investment opportunities



Custom Instructions: Your AI Foundation

What are Custom Instructions?

- Permanent personality and behavior settings
- Applied to every conversation automatically
- Defines your role, expertise, and communication style
- Critical for consistent, professional outputs

Four Key Components

- **Background Context:** Who you are and what you do
- **Response Guidelines:** How you want AI to respond
- **Communication Style:** Tone and format preferences
- **Industry Knowledge:** CRE terminology and practices

Real Estate Example

Background: I am a real estate broker specializing in investment sales and BOV generation in Tulsa...

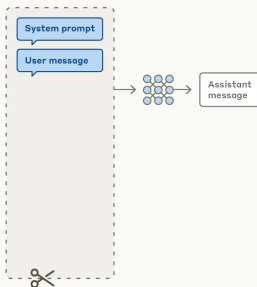


Prompt Engineering vs Context Engineering

Prompt engineering vs. context engineering

Prompt engineering for single turn queries

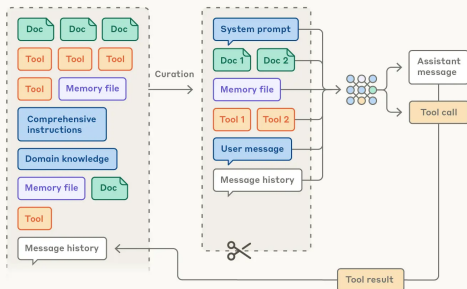
Context window



Context engineering for agents

Possible context to give model

Context window

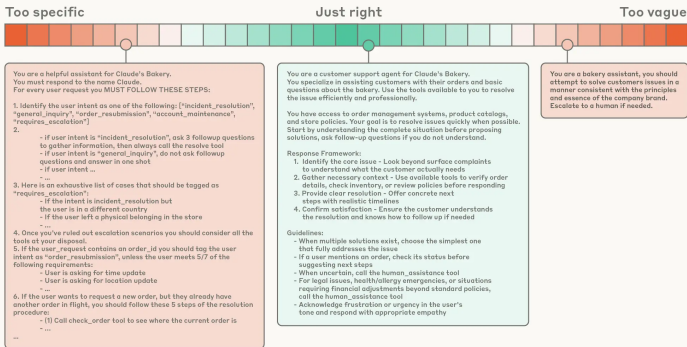


Source: Context Engineering Framework (2025)



The Anatomy of Effective Context

Calibrating the system prompt



Source: Effective Context Design Principles (2025)



7 Professional System Prompts

Ready-to-Use Prompts

- **Main System Prompt:** Foundation for all team members
- **BOV Generation Specialist:** 80%+ time reduction target
- **Investment Sales Specialist:** OM development and underwriting

Additional Specialists

- **Tenant Representation:** Site selection and negotiation
- **Market Intelligence Analyst:** Research and competitive analysis
- **Development Consulting:** Feasibility and highest/best use

Implementation

Each prompt optimized for professional workflows. Copy directly into ChatGPT Custom Instructions, Custom GPTs, or Claude Projects. Includes complete documentation and usage examples.



Agentic architecture: Prompt engineering and tools

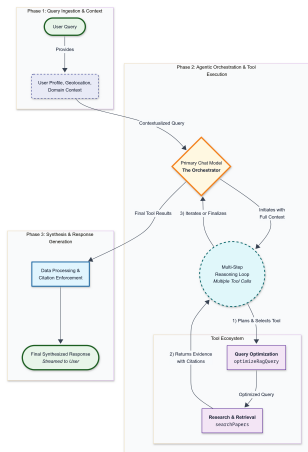
Agentic RAG Architecture with Multi-Step Reasoning

- **Primary AI Agent:** Single model orchestrates iterative tool execution and multi-step reasoning
- **Query Optimization:** `optimizeRagQuery()` with Gemini 2.5 Flash preprocessing
- **Tool Integration:** Hybrid retrieval search papers tool
- **Guardrail Implementation:** Citation standards and grounding in prompts/tools

Technical Implementation

- Dynamic prompts orchestration incorporate user profiles, location, and research context
- Query preprocessing enhances retrieval quality before tool execution
- Multi-layer citation guardrails with DOI enforcement and authority preferences
- Native AI SDK for search, data retrieval, and document creation

Prompt engineering ensures transparent, evidence-based synthesis



ChatGPT Account Tiers and Features

	Free	Plus	Pro	Team	Enterprise
Priority Supp	✗	✗	✗	✓ Yes	✓ Yes
Data Retention	✗	✗	✗	✗	✓ Yes
Admin Control	✗	✗	✗	~ Basic	✓ Advanced
SSO	✗	✗	✗	✓ Yes	✓ Yes
API Access	✗	✗	✗	~ Limited	✓ Full
Data Analysis	✗	✓ Yes	✓ Yes	✓ Yes	✓+ Yes+
Custom GPTs	~ Use Only	✓ Create	✓ Create	✓ Create	✓+ Create+
Deep Research	~ 5mins	✓ 10mins	✓+ 100mins	✓ 10mins	✓ Custom
Web Search	~ Limited	✓ Full	✓ Full	✓ Full	✓ Full
Voice Mode	~ Basic	✓ Advanced	✓ Advanced	✓ Advanced	✓ Advanced
Canvas	~ Limited	✓ Full	✓ Full	✓ Full	✓ Full
Memory	~ Basic	✓ Full	✓ Full	✓ Full	✓+ Full+
Projects	✓ Yes	✓ Yes	✓ Yes	✓+ Yes+	✓+ Yes+
Custom Instruct	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✓ Yes
GPT-5 Access	~ Limited	✓ Full	✓+ Full+	✓ Full	✓+ Full+



Source: OpenAI ChatGPT Feature Comparison (2025)

Recommendation for Real Estate Professionals

Pro Tier provides the best balance of features and cost for most real estate teams. Enterprise tier recommended for organizations with sensitive data requirements.



Projects: Organizing Your AI Work

What are Projects?

- Organized workspaces for specific workflows
- Persistent context across conversations
- File storage and reference materials
- Custom instructions per project

Real Estate Project Types

- **BOV Generation:** Automated valuation reports and analysis
- **Investment Sales:** Offering memorandums and underwriting
- **Tenant Representation:** Site selection and lease negotiation
- **Market Intelligence:** Research and competitive analysis

Implementation Tip

Start with one project type, master it, then expand to others



Advanced Tools and Capabilities

Research Tools

- **Web Search:** Real-time market data and research
- **Deep Research:** Comprehensive analysis and synthesis
- **Document Analysis:** PDF and file content extraction
- **Data Analysis:** Excel/CSV processing and visualization

Integration Capabilities

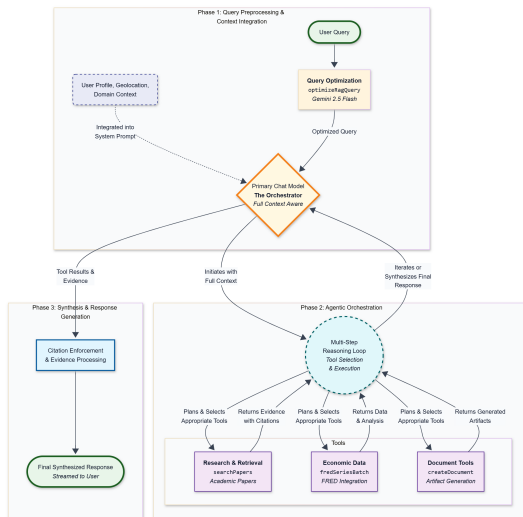
- **Google Drive:** Seamless file access and storage
- **Gmail:** Email drafting and management
- **Calendar:** Meeting scheduling and coordination
- **CRM Integration:** Client data and relationship management

Real Estate Applications

BOV generation, comparable analysis, investment underwriting, market research



Multi-tool orchestration



ChatGPT Model Selection & Thinking Modes

Model Selection

ChatGPT offers various models (GPT-4o, GPT-4, etc.), but with the introduction of GPT-5, model selection is simplified:

- **GPT-5** is now the go-to choice for virtually all tasks
- No need to switch between different models
- Focus shifts from *which model* to *how it thinks*

Thinking Modes



- **Auto:** Automatically determines thinking depth based on task complexity (recommended default)
- **Instant:** No extended thinking, fast responses for straightforward queries
- **Thinking:** Deep reasoning mode for complex analysis, takes longer but provides higher quality outputs

Best Practice


Use Auto mode for most tasks; switch to Thinking mode when tackling complex valuations or multi-variable analyses





ChatGPT Agent Mode!! (July 17, 2025)





ChatGPT


 New chat


 Search chats


 Library


 Codex


 Sora


 GPTs


 Sora Video AI


 N8N Assistant (By Nskha)


 New project


 Generic Research Assistant AI...

 Emails


 Agentic Assets - AI Assistant


 n8n assistant v3


 Blended Teaching RE Chair A...


 See more

Chats

 Locate industrial facility


 AI Daily Update Request


 Domestic travel travel


 Cayman Seagraves

lease rates, assess transportation access to key distribution markets, and identify properties with potential rail spur connections or close to Tulsa International Airport cargo facilities. I'll compile all findings into a structured spreadsheet. I'll notify you once the research is complete.


Opening property listing details


 industrial space 40000 square feet Tulsa I-44 lease 28 ft clear height

 loopnet
Industrial Space for Lease | LoopNet

 loopnet
Tulsa, OK Indu

VIEW INTERESTED PROPERTIES TO SCHOOL PROPERTIES TO VIEWING
for Pecan Valley Business Park, located at
1329-1351 North Garnett Road, with 40,100
square feet available. I'll open the listing to
gather further
wiginprop
Industrial 1,000 - 5,000 sq. ft. Archives - wigin properties

 priceedwards
Industrial Building - For Lease | Price Edwards and Company

 crexi
Tulsa Industrial Space For Rent | Commercial Leasing | Crexi.com

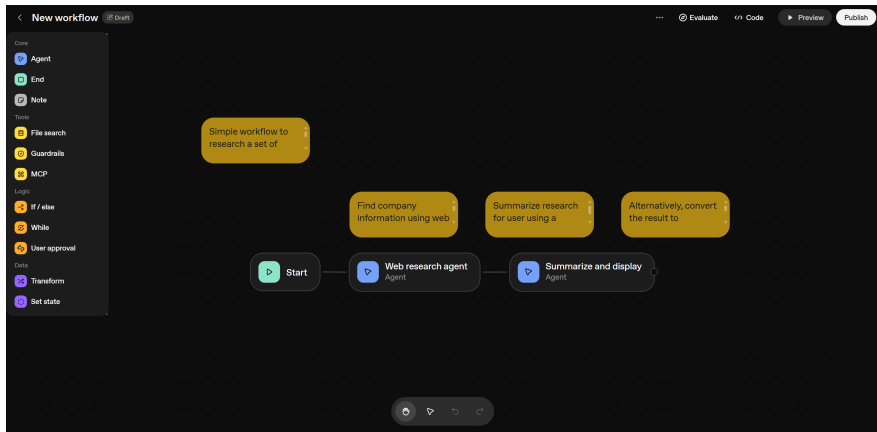
LIVE

Follow up

+ |  Agent x |  Sources ▾



ChatGPT Agent Builder!! (October 6, 2025)



Thank You!

Questions?

Your 7 system prompts and complete documentation are ready for immediate use!