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The CRE Executive's Guide to AI

What Is AI, What Isn't AI, and Why Should I Care?

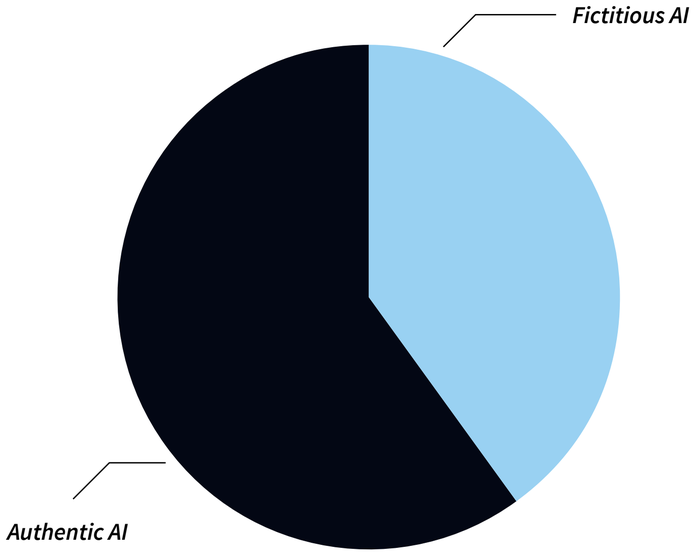
“Big data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it…”

Professor Dan Ariely

It seems like everyone and their pet robot is talking about AI these days. But, as with many disruptive tech-based movements, there’s a whole lot of misinformation out there - some of it perpetuated by organizations peddling conventional solutions, but jumping onto the AI marketing bandwagon.

Almost half[1] of all companies classified as ‘AI startups’ actually have very little to do with artificial intelligence - a fact that should give pause to anyone considering exploring AI solutions.

Time for some basic facts about what’s real and what’s not in the truly exciting world of artificial intelligence, machine learning, big data, and the rest.



AI-labeled startups attract up to 50% more funding than other technology firms, and two out of five 'AI startups' essentially have no AI under their hoods at all

The Buzzword Dictionary

Artificial Intelligence (AI): AI has been around for decades, and refers to technology programmed by humans which uses data and algorithms to automate a certain capacity of work that otherwise could only be done by humans, like playing chess or detecting anomalies in an MRI exam.

Machine Learning (ML): Algorithmic machine learning is a subset of AI. In ML, humans don't write all the code lines; rather, they teach the machine to train itself by running data through the model, resulting in its ability to learn new things and change its own rules as it goes along - without explicit programming. Some of the machine learning algorithms in popular use today are modeled after the human brain, in what's known as artificial neural networks. Technologies built on such topologies are considered to be AI/ML.

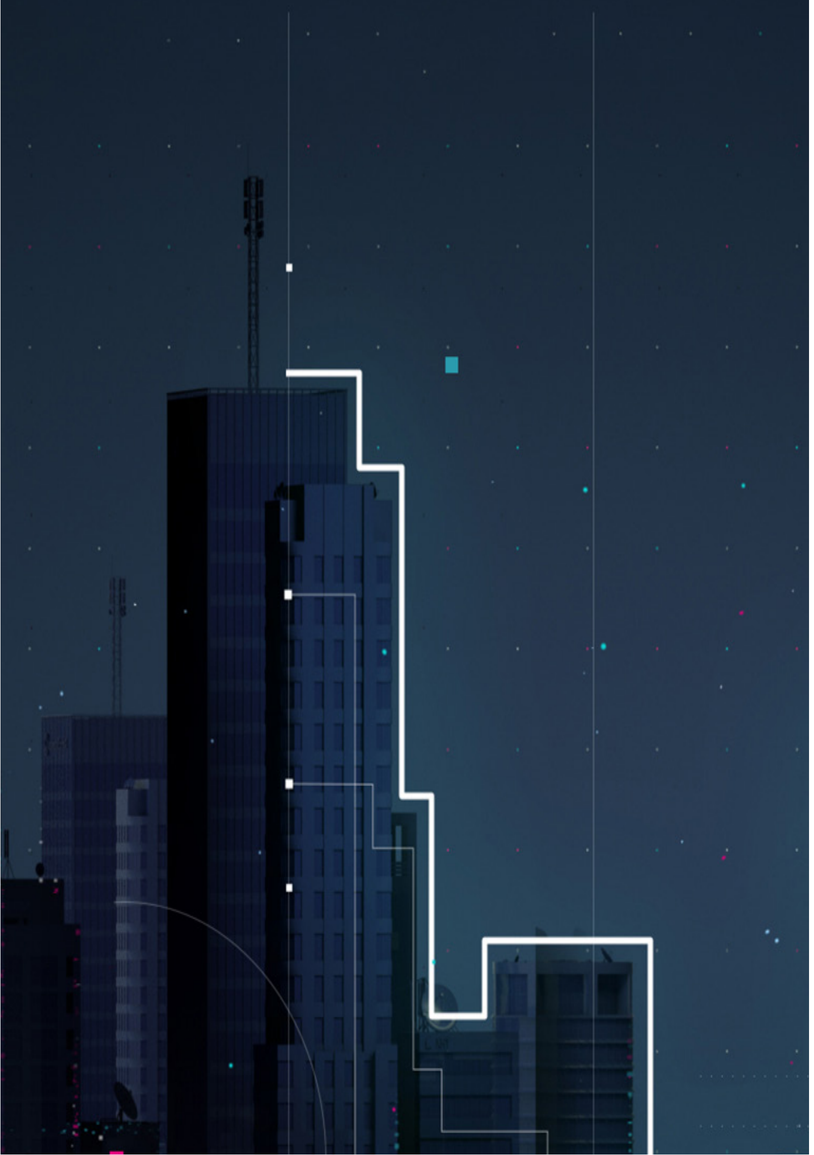
Deep Learning (DL): A subset of machine learning, deep learning is considered the "holy grail" of AI's progressive evolution. Simply put, the great step forward of DL is its ability to automatically learn from all kinds of raw data types without human training - that is, autonomously teaching itself.

Big Data: A volume of data too large for processing using traditional database and software techniques. It's only in the last 20 years that data became so exponentially "big" that managing it became an issue - remember the simple days of audio cassettes and 1.44MB floppies? Many refer to the three V's when characterizing big data: broadened variety, increasing volumes, and heightened velocity.

Predictive Analytics: A method of analyzing current and historical facts to make predictions about future events using artificial intelligence, advanced computation, and big data.

AI today allows for much higher processing and automation than ever before - and is currently the best available way to harness big data. It will eventually carry out high-level predictive analytics with high accuracy - making sense of enormous amounts of relevant data and even improving our ability to predict the future.

Differentiating AI from A-Try



The current CRE techscape can be confusing, as there are a good deal of tech-based services that may seem to be AI, but are actually not.

Examples of Probably Not AI

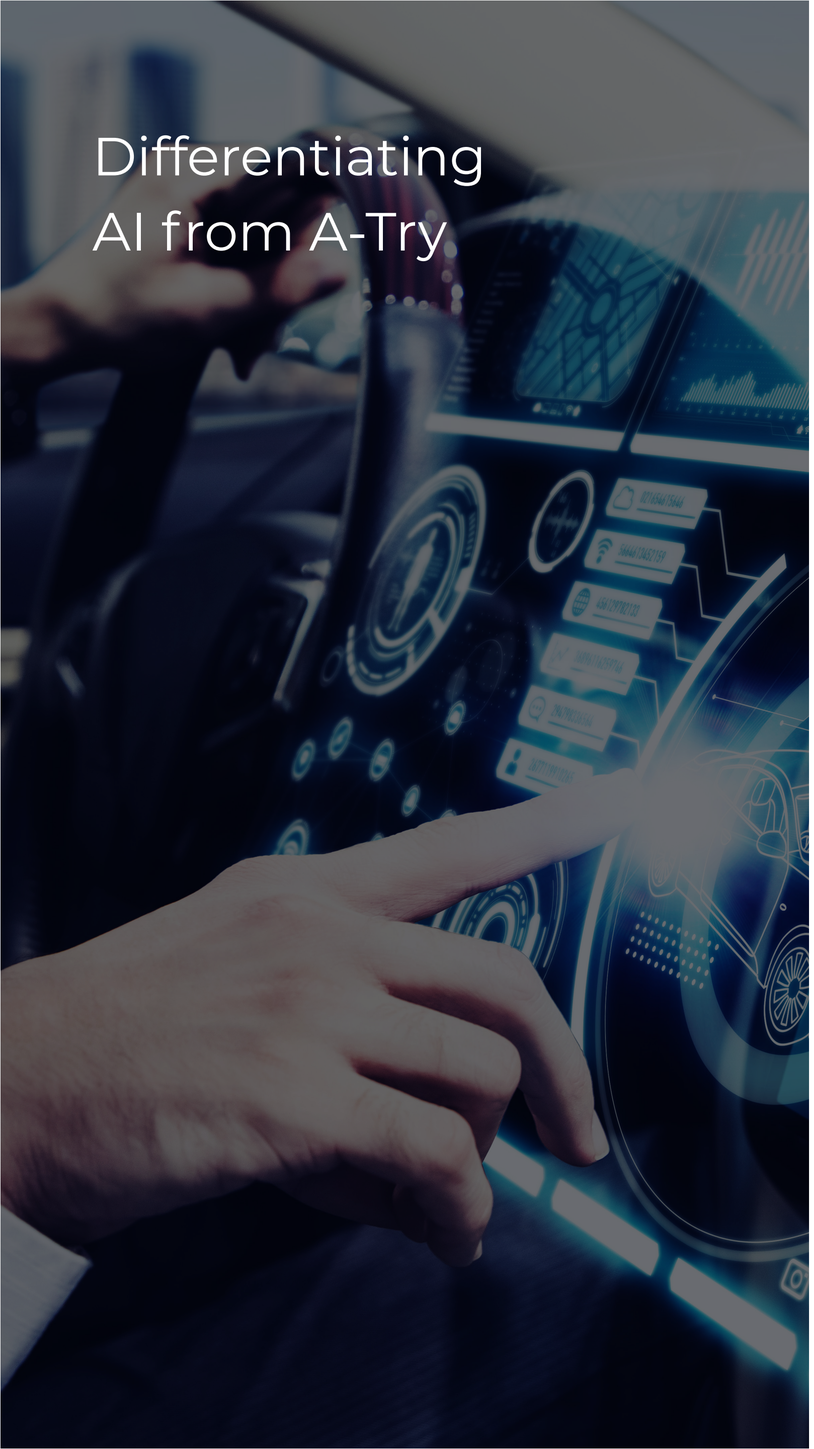
Dashboard services which aggregate lots of data from various providers, such as transactional data, rent data, etc.

Investment procedural solutions are rising in popularity. These services aggregate the various legal steps required along the investment process.

Many technologies in daily use are assumed to be AI-based, but closer examination may reveal otherwise. As one example: the IoT sensor at the rear of your car that aids parking by transmitting video and alerts of obstacles when in reverse? It may be using advanced vision technology like edge detection and may even augment some of your human capability, but the underlying algorithms are likely 100% rule-based - which is what most AI experts would not consider to be AI. On the other hand, a simple looking image classifier that detects cat images may be using the most cutting-edge AI algorithms to perform these classifications.

Image classification

Rule-based algorithm



Differentiating AI from A-Try

What to Look For/Ask:

- What are the objectives of the AI implementation in real estate terms?
- To what particular field or RE insight undertaking will it be applied?
- Which KPIs will measure its success?
- Will this product support output decision-making insights?

Some AI products are peripheral contributions to a bigger cause, like robotic agent chatbots or automated corporate document management. These should be differentiated from platforms using AI on a core level, that is, the level where core business objectives are conducted. It's the difference between a car with smart climate control versus a completely autonomously driving car. One is a peripheral element that contributes to the core. The other is the core itself.

CRE applications on a core level have a very specific objective: using AI machine learning to glean actionable understanding of the assets in question to facilitate reliable investment decisions.

Core CRE Applications Should:

- Identify emerging trends from the cross-continent to the neighborhood level
- Pinpoint areas that are about to take off while avoiding potential downturns
- Carry out deep analysis of owner and asset behavior
- Detect value creation opportunities such as off-market deals
- Recognize performance anomalies like mismanagement and distress signals
- Position its investors as first to obtain secure, high-value deals

Remember:

- You wouldn't use a chainsaw to change a tire. Make certain that AI is the right tool to solve the problem at hand.
- AI is only as good as the data it's being fed – data which is curated by humans, who oftentimes make mistakes. Old, inaccurate, and irrelevant data sets will lead to useless results.

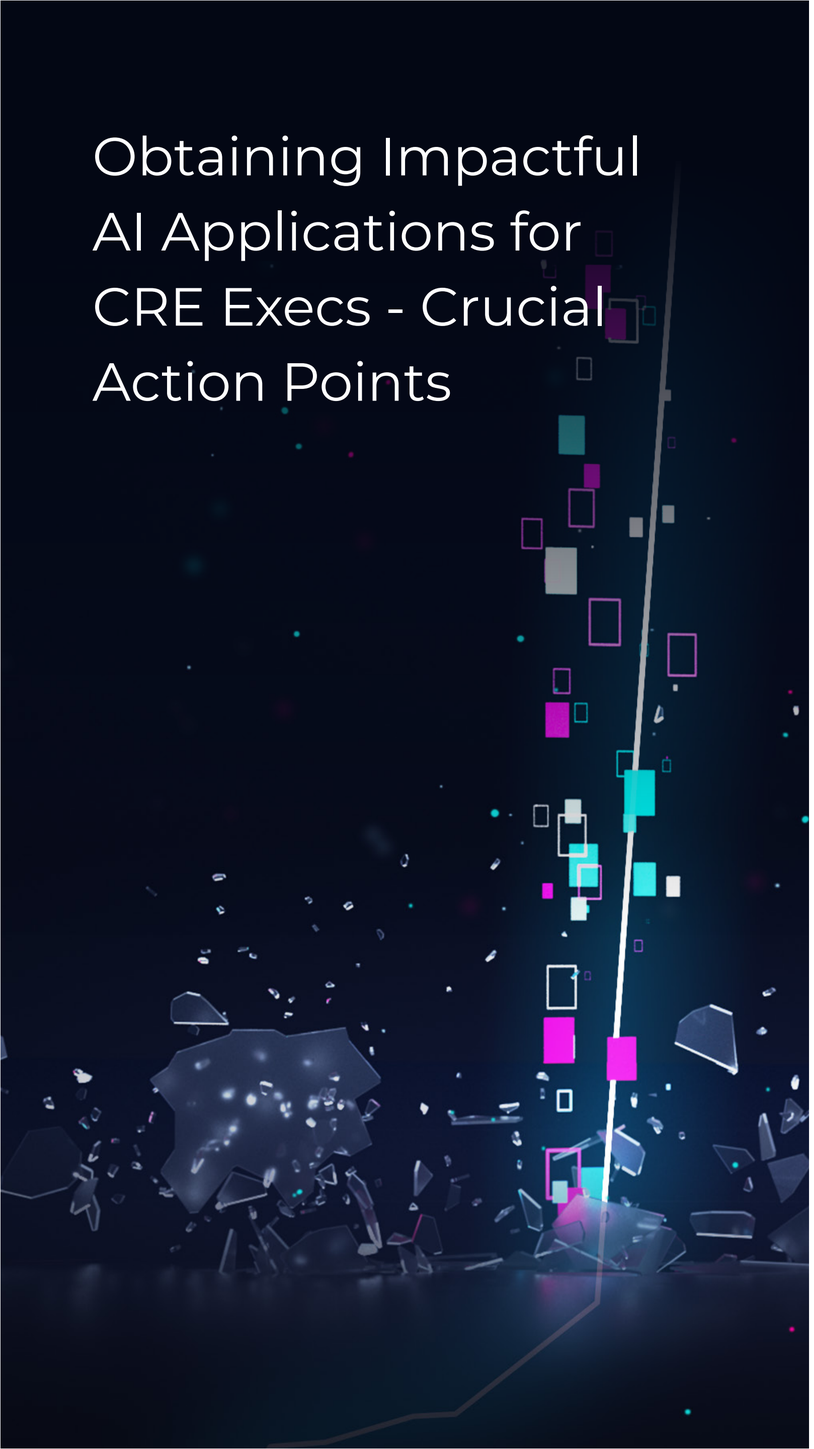
Another way to detect a CRE tech company's degree of intention - and capability - is by looking into the organization's team. Is it comprised of real estate veterans and an IT guy? Or expert data scientists and engineers with solid backgrounds in deep tech? If the latter, what's the ratio between engineers and AI/data scientists (ideally about 1:1)? The answers to these questions will be very telling about the seriousness of the company's AI hype.

To use AI effectively in today's state-of-the-art environment, you need to either have enormous amounts of data (which very few companies are able to gather) or otherwise be developing technology around machine vision.

AI-Odometer

- How much does the company invest in AI compared to other investments in other technologies and in the overall expenditures (sales, marketing, etc.)?
- What is AI's actual impact on the company? If tomorrow people cannot use AI for some reason, what will happen to the company? If our odometer needle does not move, it's not an AI company. If the company as a result plunges - it's AI. The only thing that matters is the value being brought to the table.

Obtaining Impactful AI Applications for CRE Execs - Crucial Action Points



So how should a real estate executive find the right AI-based solution to take his or her investment potential to the next level? Here are some crucial action points:

1. AI is not a goal in and of itself. Define your objectives and KPIs and determine that AI is the best technology for achieving them.

2. When it comes to CRE, there is a huge difference between AI applications being used peripherally, such as SaaS portfolio managers or cloud analytics platforms, and platforms using AI for core business objectives. Different organizations have different AI needs - it's crucial to identify which solutions align with which organizational necessities.

3. There's no such thing as one-size-fits-all when it comes to deep data solutions for your business. A fully bespoke AI integration must take into account the strategies and corresponding data groups of your particular business model. Potential partners should display a deep understanding of your business goals and methods.

4. Core AI system building requires highly specific specialties. This usually requires partnerships with technology professionals deeply knowledgeable of AI's building blocks and capabilities, particularly as they relate to real estate investment. This is not likely to be an in-house effort.

5. Define the areas most crucial to your bottom line strategies and see who can make the biggest impact there. The additions should be implemented seamlessly into your normal operations, yet still bring quantifiable improvement to your business goals.

6. Consider how AI can be directed to create alpha for your organization. Effective AI-based CRE insight should fuse the expertise of your company's real estate professionals with machine learning models to identify value creation opportunities.

7. When efficiency or automation is the objective, incorporating AI shouldn't just improve things incrementally - it needs to give you a serious exponential jump. As such, your KPIs for relevant values should be through the roof. Don't be misled into thinking AI implementation should be measured in any other way but its effect on your bottom line.

8. It won't be too long before people stop using the term "AI" and a new term arises. Some experts[2] even go so far as to label the AI trend a "hype-cycle." If AI is anything less than essential to your brand, overuse of the term might eventually prove detrimental.

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Over the last few years, we've seen AI disrupt a number of traditional industries - and the commercial real estate market should be no different. By understanding vast amounts of data that affect the entire real estate investment lifecycle, AI technology has the potential to unlock billions of dollars in hidden value. Now's the time for real estate leaders to develop in-depth knowledge of the new tools available, and how to apply them to their business objectives. By sourcing authentic, best-in-class AI technology, real estate professionals will develop a far deeper understanding of the real estate market than ever possible.

Read more about Skyline AI

Footnotes

1. *Parmy Olson, Nearly Half Of All 'AI Startups' Are Cashing In On Hype, Forbes, Mar 4, 2019*
2. *Meghan Morris, The CTO at $55 billion asset manager Cohen & Steers explains why AI is 'in the middle of a hype cycle,' and what he's investing in instead, Insider, Jan. 31, 2019*

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