

Orange County REALTORS® - Nerd Fest

When AI meets Blockchain: Perspectives for Real Estate Professionals

Dr. Aleksandar Velkoski



Today's Agenda

- Introduction
- Artificial Intelligence (AI)
- AI Example: Image-Driven Valuations
- Intersection of AI and Blockchain
- Future of Real Estate

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Introduction

Dr.B.A. in Economics, M.B.A., B.S., Exec. Ed.

Started Career at Daimler AG as Global Mgt. Trainee

Founded Marketing Analytics & Research at RN

Lead data science at REALTORS®

Adj. Prof. in College of Computing at DePaul University

Founder & Lead Organizer at Chicago ML

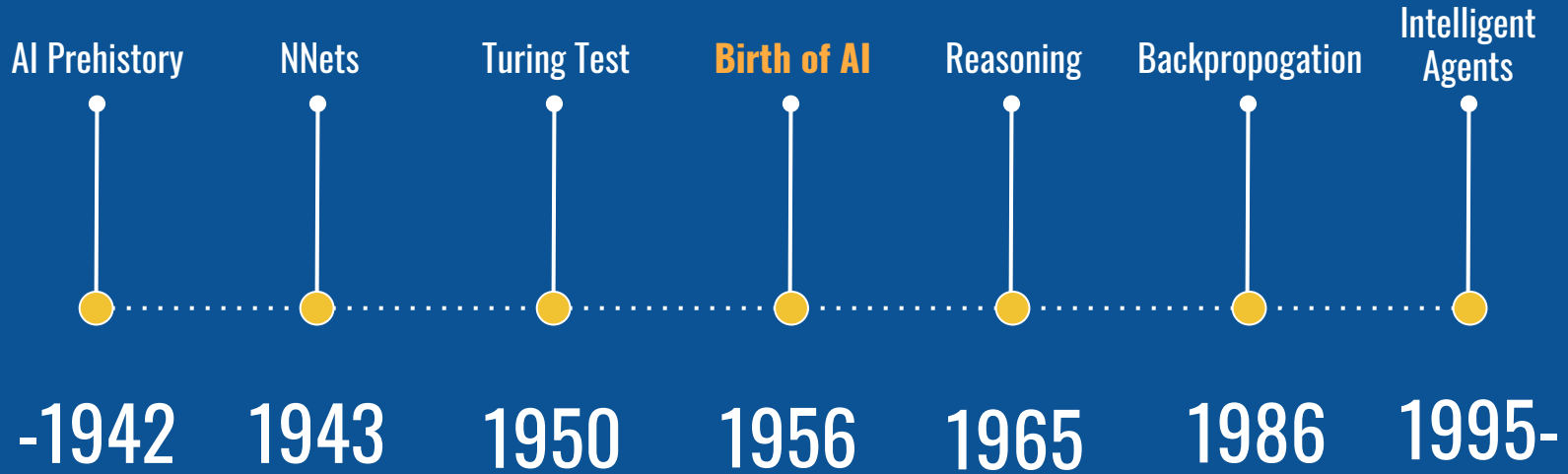


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AI Is Not New



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What Is Artificial Intelligence?

Study and practice of making machines smart

To Think Or Not To Think

	Humanly	Rationally
Thinking	Cognitive Modeling	Laws of Thought
Acting	Turing Test	Rational Agents



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What does it mean to be “smart”

Smart = selecting an action that maximizes the value of an outcome

On Autonomy



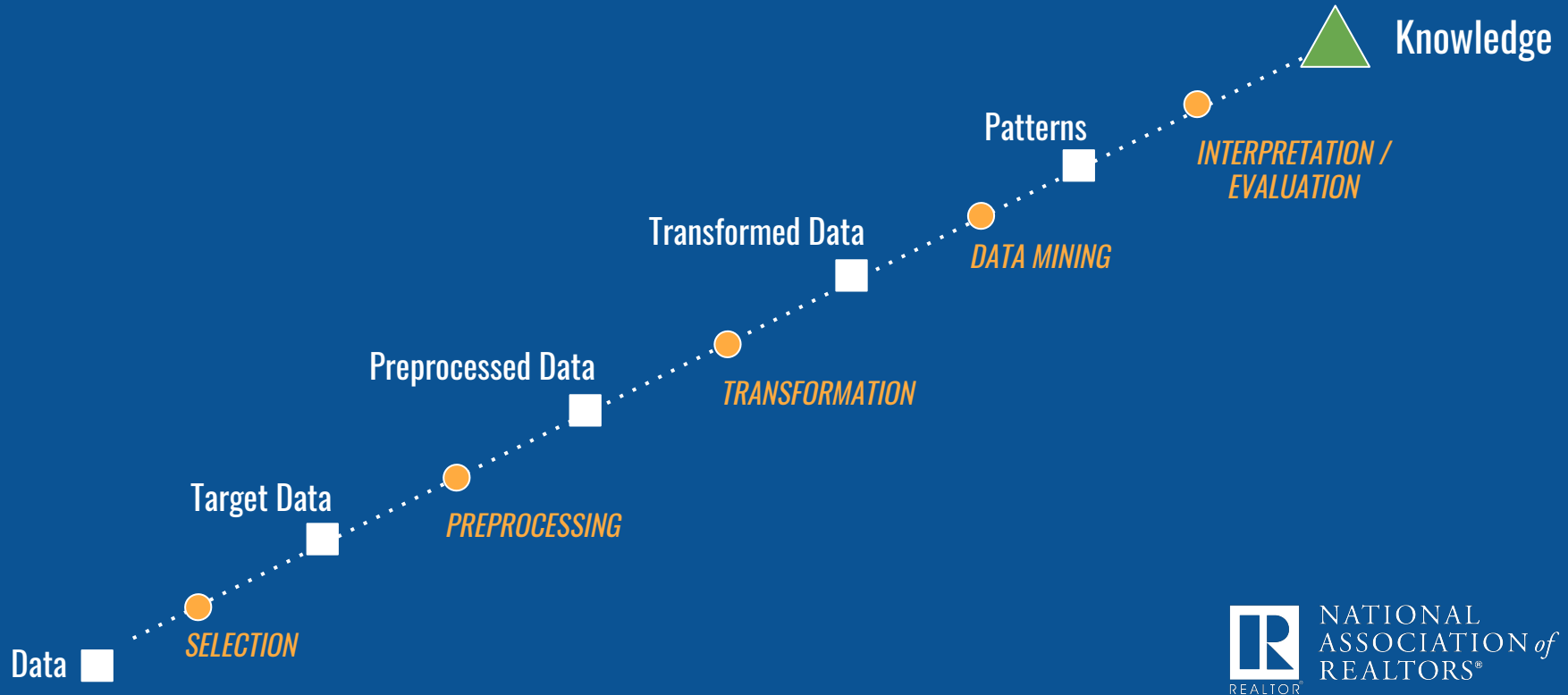
What Is Machine Learning (ML)?

Computer programs that help machines “learn”
(e.g. become smart)



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In Context Of Knowledge Discovery



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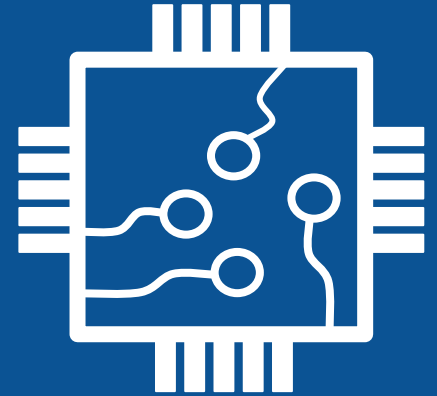
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Traditional Approach

PROPERTY_ID	BEDS	BATHS	GARAGE	WATERFRONT	SALE_PRICE
21535432	3	3	Y	N	\$700,000
52357833	1	1	N	N	\$250,000
21354688	2	1.5	N	N	\$375,000
86547232	6	4.5	Y	Y	\$1,200,000
12475421	4	2	Y	N	\$680,000
36795242	3	3	Y	N	\$700,000



IF BEDS = 3
AND BATHS = 2.5 AND ...
THEN SALE_PRICE = ?



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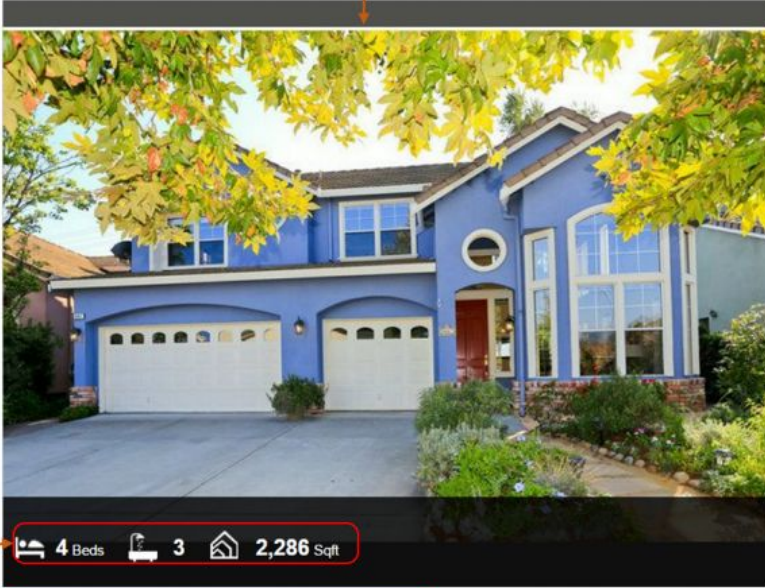
Something's missing ...

A picture is worth a thousand words

San Jose, CA Property

San Jose, CA 95118 on Sep 16, 2014
[Refi Rates](#)

Images



4 Beds 3 2,286 Sqft

Overview Schools & Neighborhood Property History

Basic Property Detailed Information

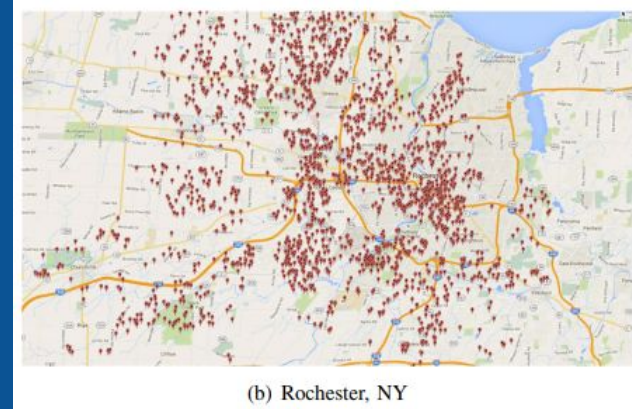


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Best Model Performance



$\pm 4.58\%$



$\pm 9.94\%$

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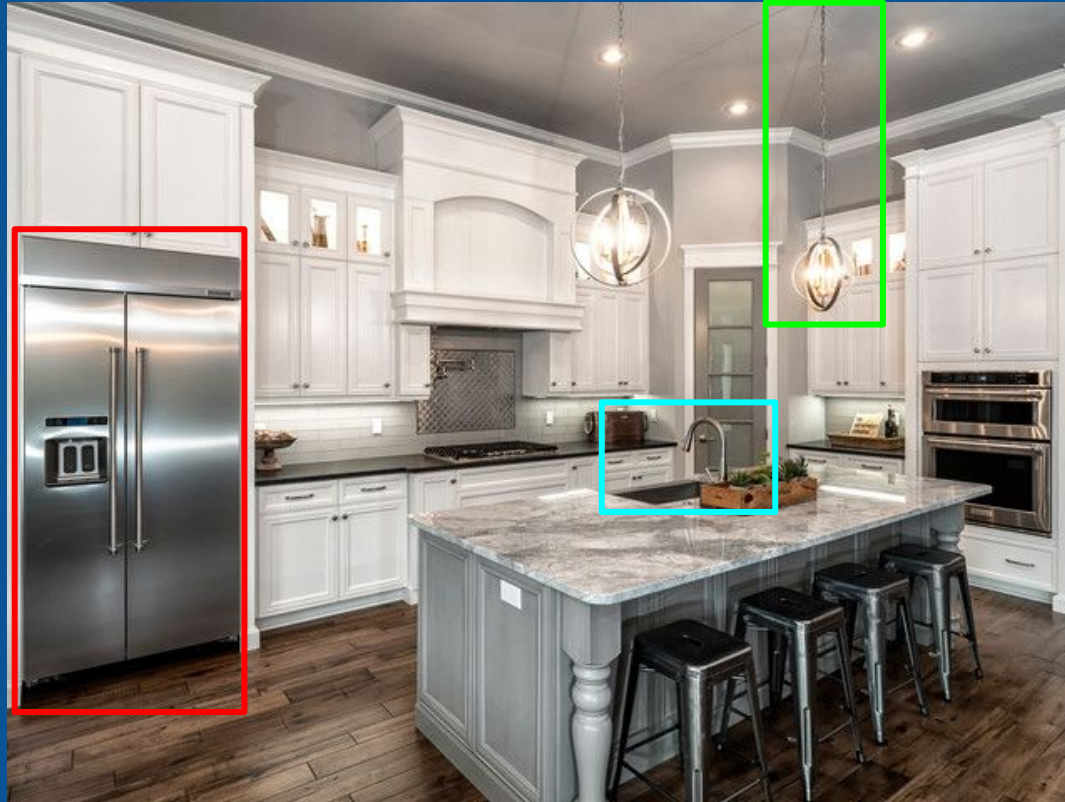


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Blockchain Revisited

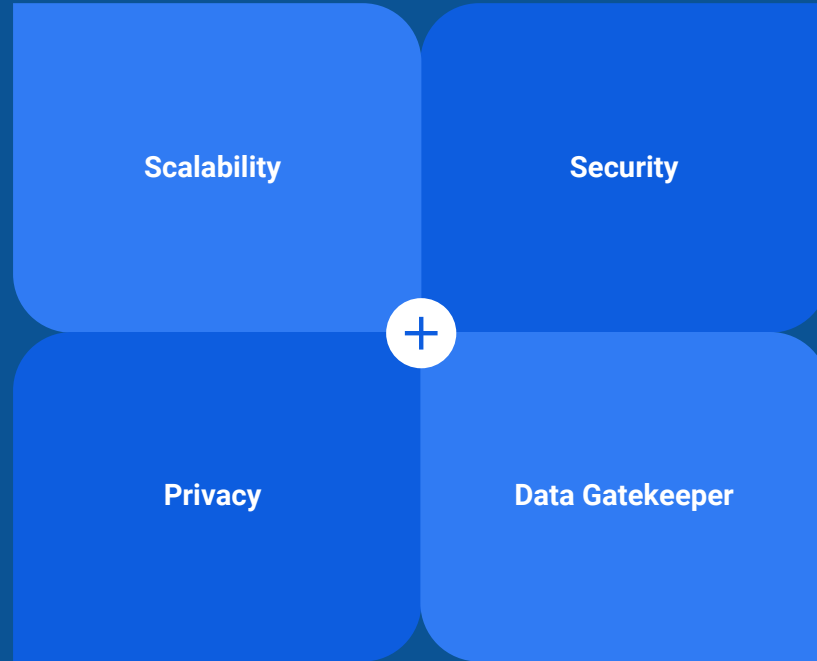
Provide a verifiable and trustworthy record of
events or transactions

Enhanced Property Records



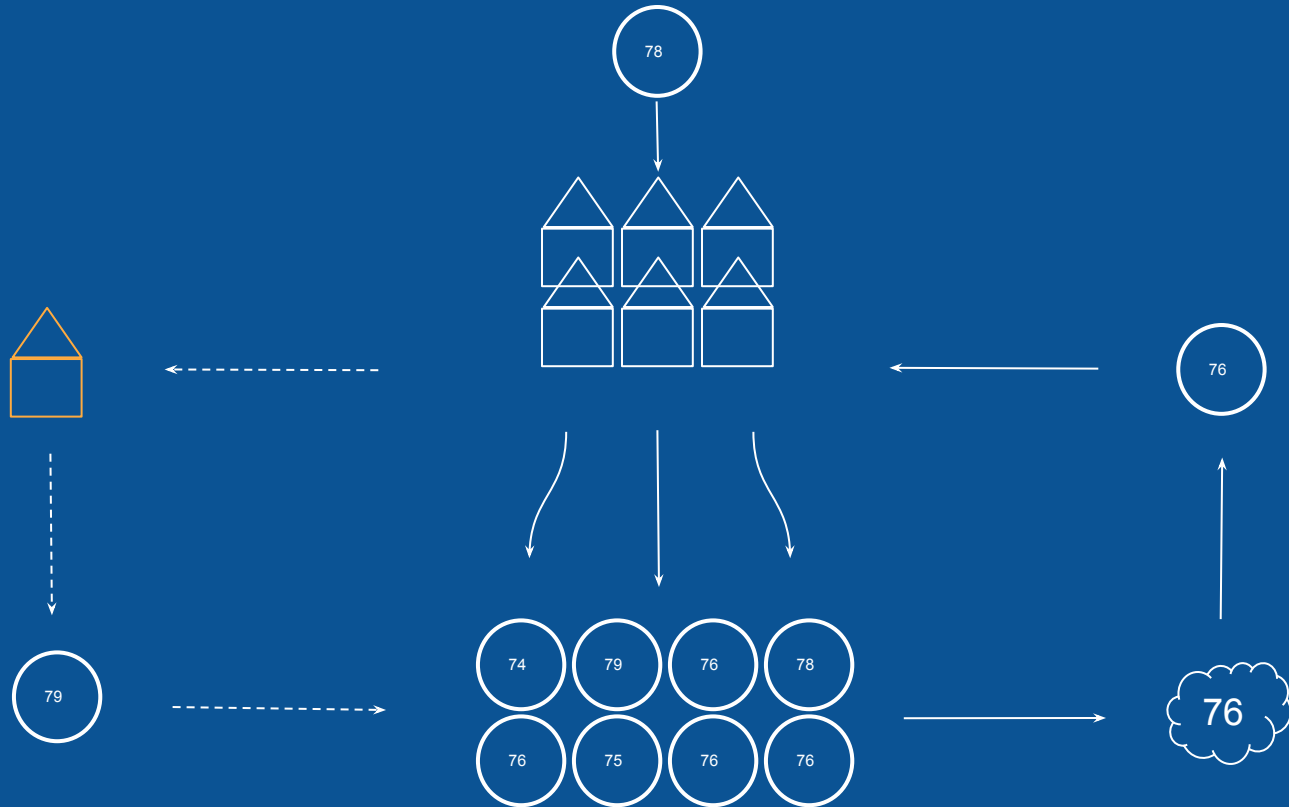
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Some of the Key Features

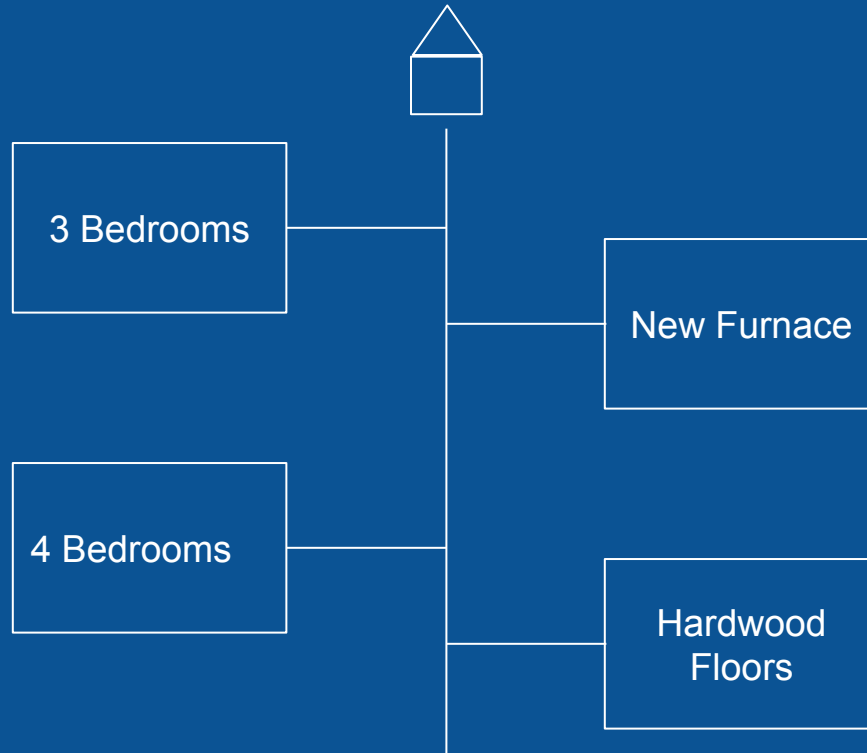


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Scalability

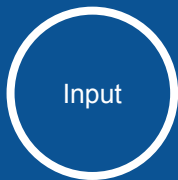


Security

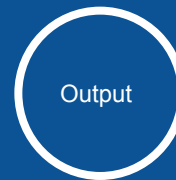


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Privacy



Input



Output

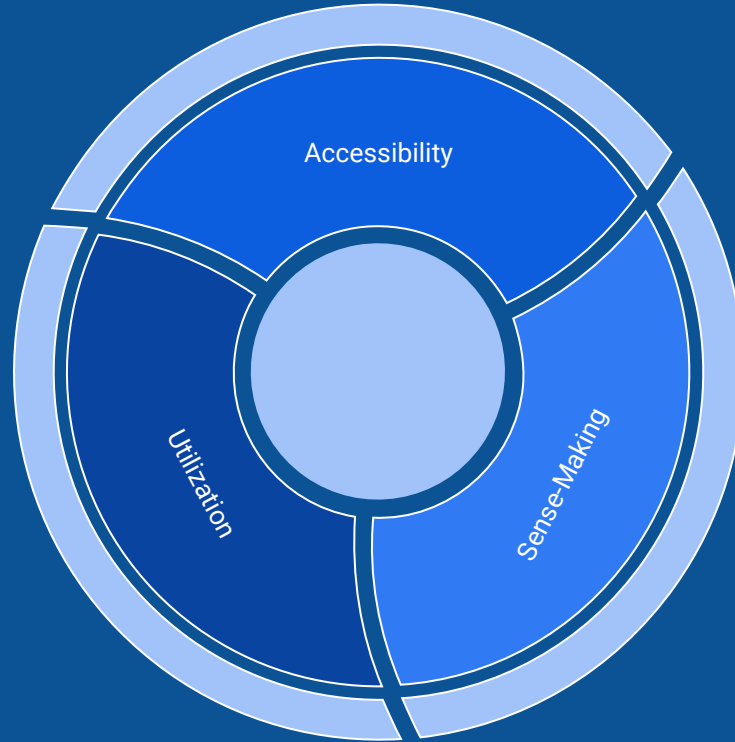
“This property has 3 beds, 2 baths,
and a beautiful kitchen. The owner is
65 years old and has lived in the
home for 30 years.”

“weoriusgaasdfsdfasdfjioioiqlkwjer
;lkjaosidflkqwesdmhg”



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Data Gatekeeper



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In addition ...

Blockchain helps AI explain itself

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A Peek into the Future of Mainstream

- Valuation and Fractional Ownership
- AI Boost Blockchain Efficiency
- Federated Learning
- AutoML and Augmented Discovery
- Algorithm Marketplaces



Takeaways

- Consider how these technologies could impact your business:
 - Educational implications?
 - Productivity implications?
 - Legal and ethical implications?
- Follow trends in emerging technology
- Attend webinars and other emerging technology events
- Try out some of these technologies

The Future is ... AI and Blockchain

Employing Blockchain-based, AI-driven systems
to do more, better and faster



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Thank You!

@avelkoski
<https://bit.ly/avelkoski>