

# The Future of Real Estate: Embracing AI

A Look into the Future

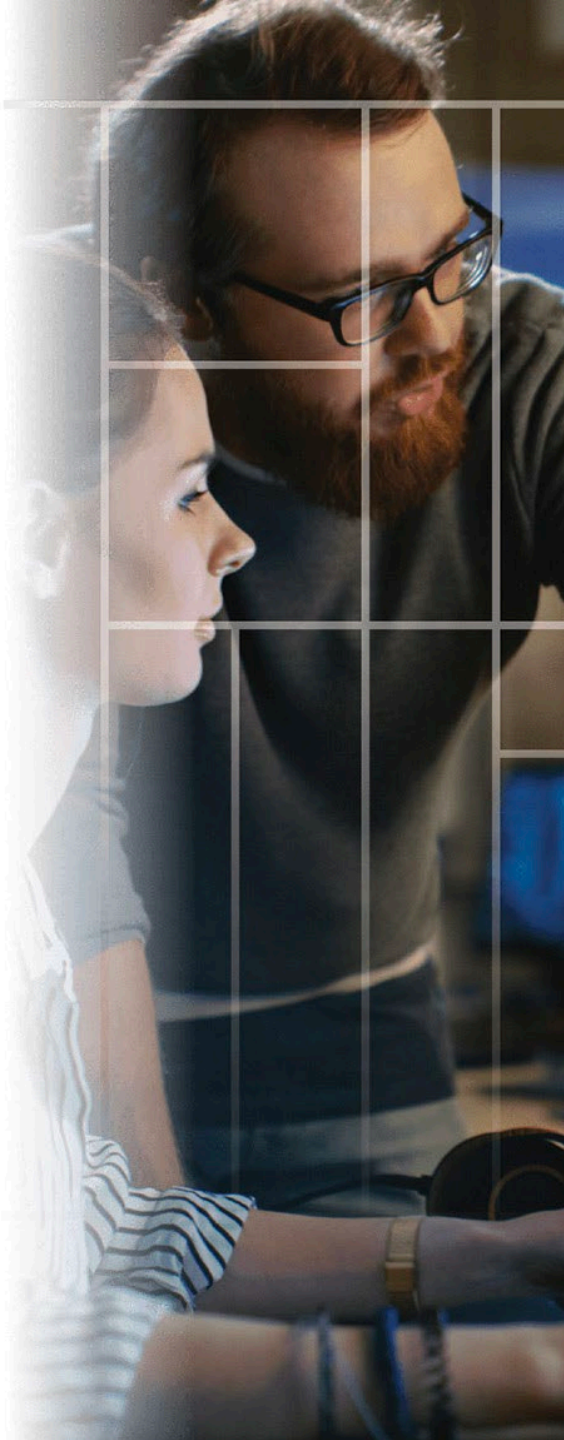


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# Roadmap - Intersection of AI & Real Estate

- What is AI?
- How is AI transforming the real estate industry?
- What are current AI applications
- Future of AI





# **AI ISNT GOING TO REPLACE YOUR JOB!!**

**EMBRACE IT AND NOT LET IT PASS YOU BY..**



**THE AI POWERED AGENT  
WILL EVENTUALLY  
REPLACE THE EVERY DAY  
AGENT**

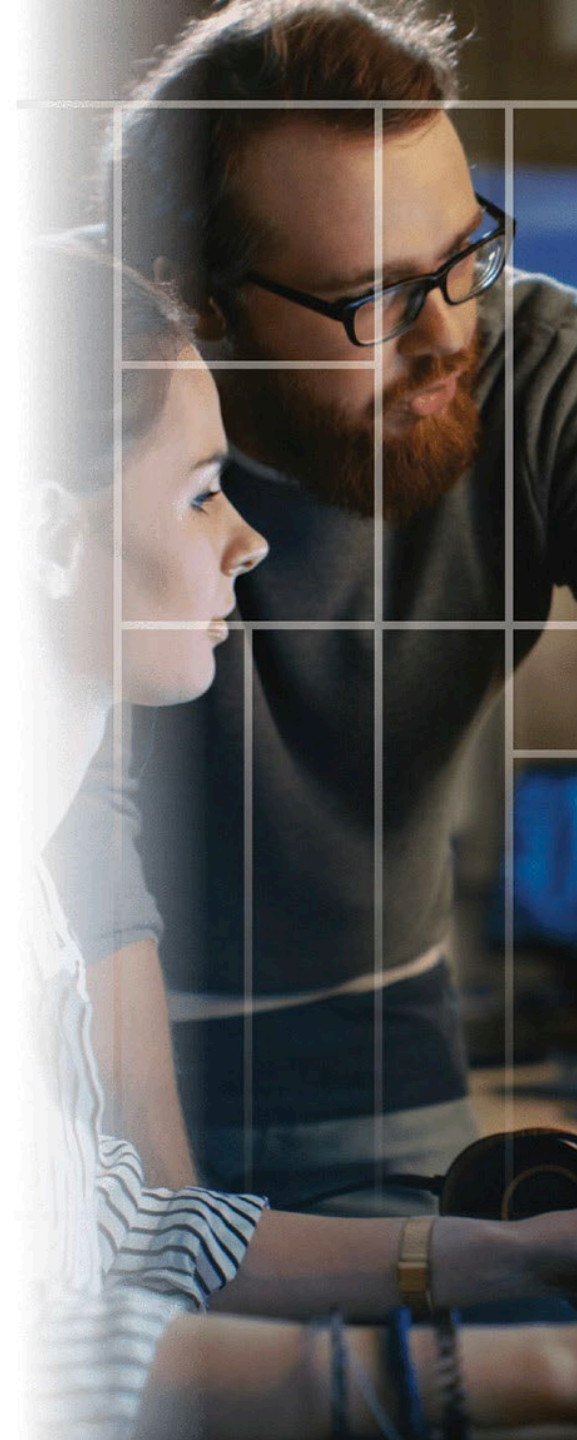
**... IT'S JUST A MATTER OF TIME**



# **THE AI REVOLUTION IS NOT JUST ABOUT YOU**

**... IT'S ABOUT THE CLIENT**

# What is AI? - For most people AI evokes:

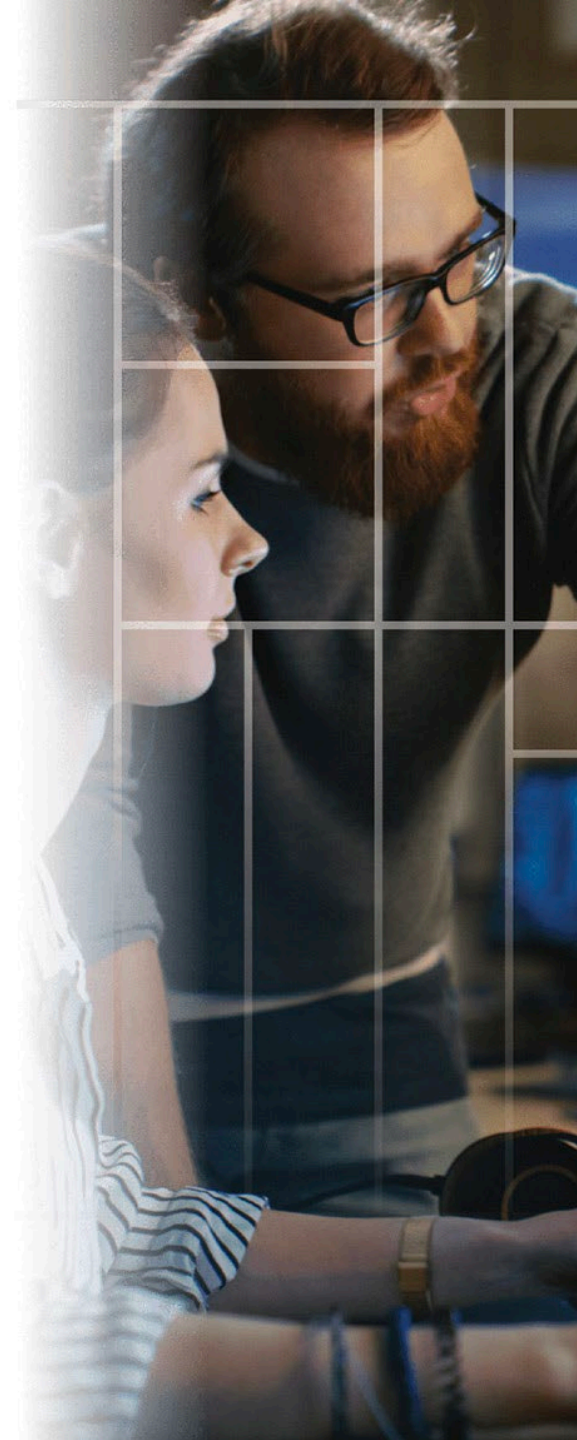




# What is Artificial Intelligence?

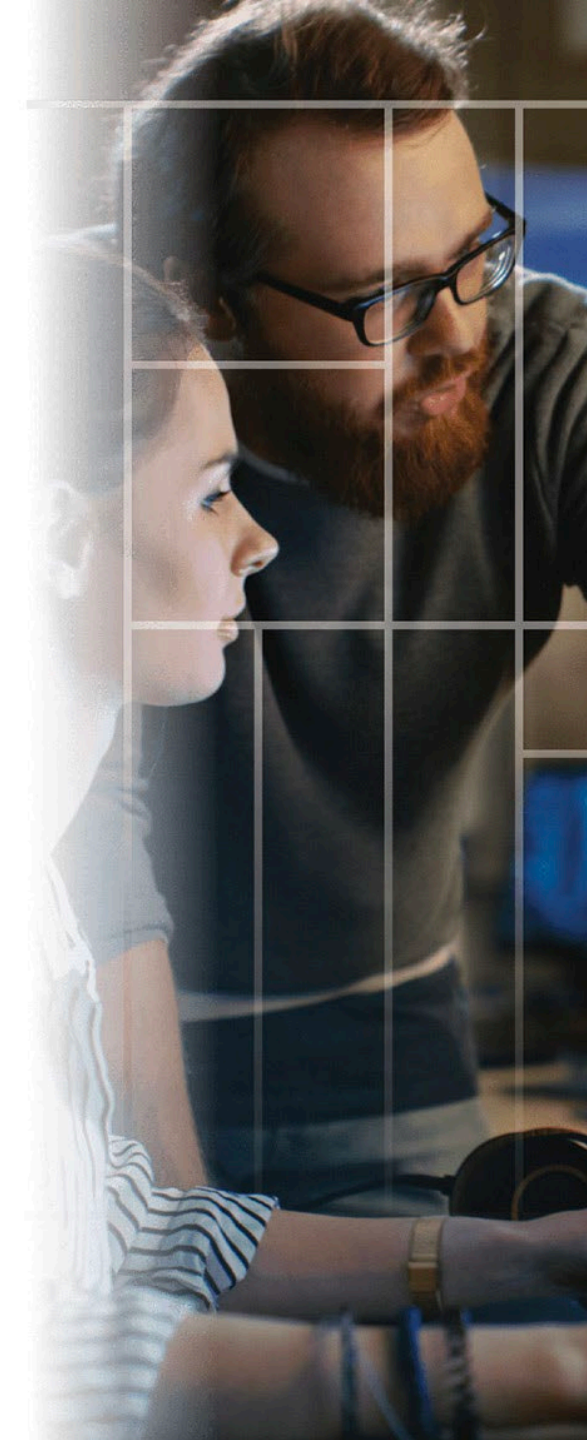
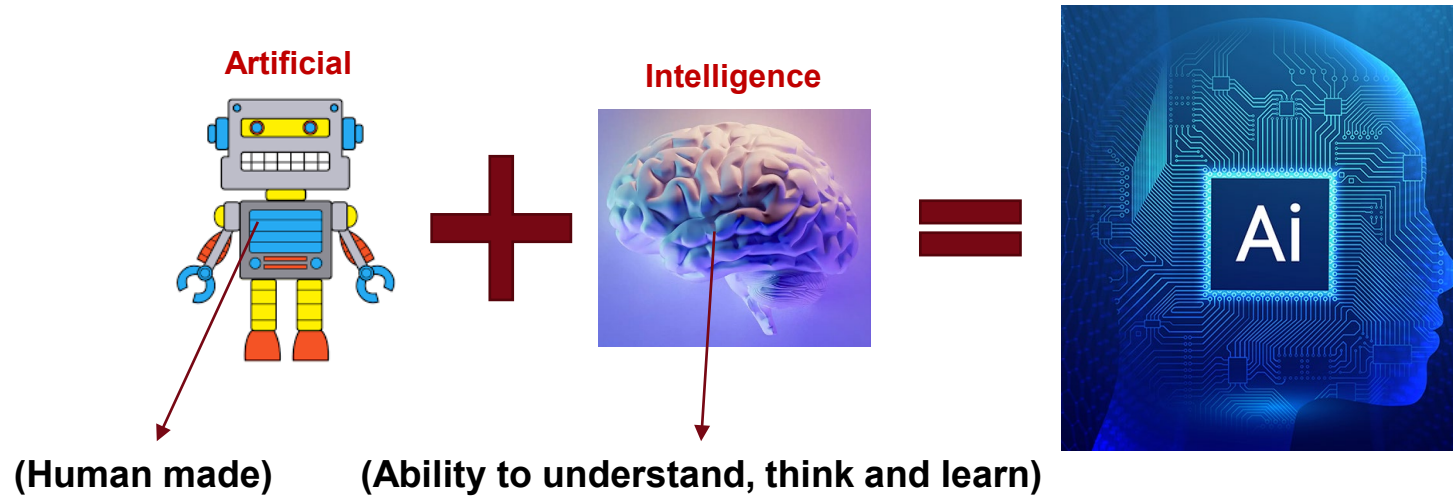
## Definition

- **Definition 1 (According to Wikipedia):** “**Artificial Intelligence (AI)** is intelligence exhibited by machines”
- **Definition 2 (also Wikipedia):** “**Artificial Intelligence (AI)** is a sub-field of computer science that is concerned with the automation of intelligent behavior.”
- **BUT:** it is already difficult to define “Intelligence” precisely
- Psychologists define **intelligence** with IQ test!



# What is AI?

- **Definition 3 (Elaine Rich):** **Artificial Intelligence (AI)** studies how we can make the computer do things that humans can still do better at the moment.







**AI TECHNOLOGIES ARE  
GENERAL PURPOSE  
TECHNOLOGIES**

**AI IS THE NEW ELECTRICITY!!**



**AI IS A TOOL**

**SOCIAL MEDIA**





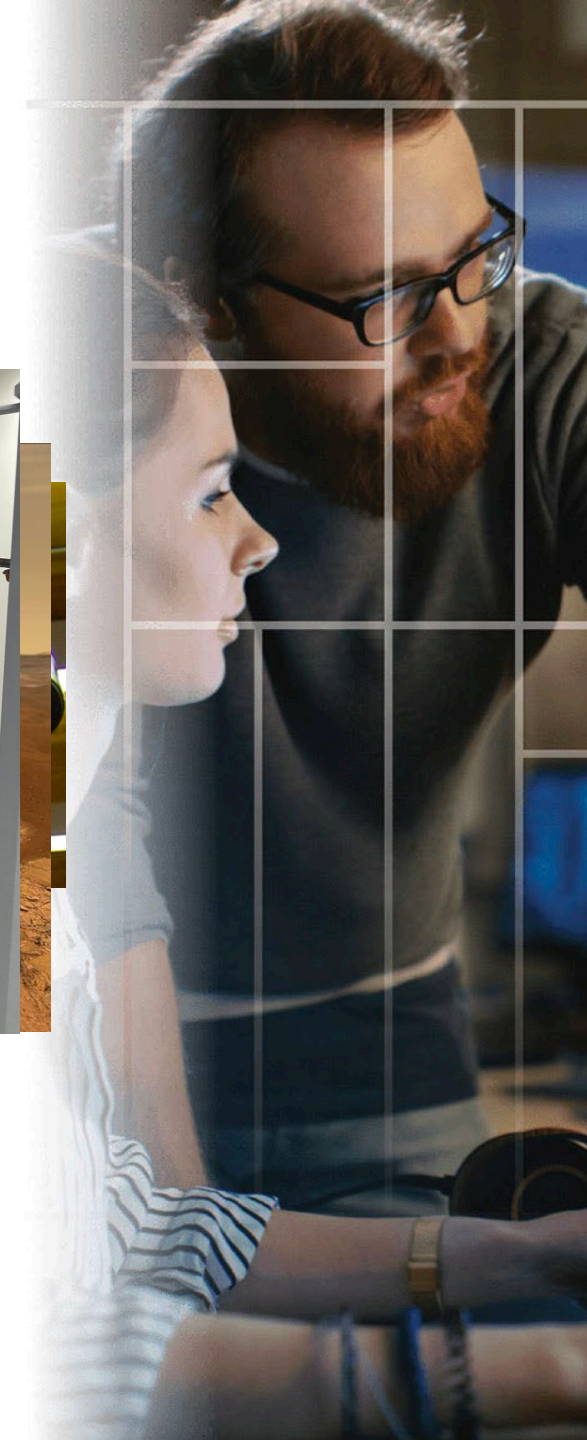
# AI IS A TOOL

**Tractor**



# Artificial Intelligence is here today!

- Outer space
  - in outer space systems need autonomous control (mars rover) : remote control impossible due to time lag
- Artificial limbs
  - the user controls the prosthesis via existing nerves, can e.g., grip a sheet of paper.
- Household appliances
  - The iRobot Roomba vacuums, mops, and sweeps in corners, parks, charges, and discharges...
- Hospitals
  - in the USA 90% of the prostate operations are carried out by RoboDoc
  - Paro is a cuddly robot that eases solitude in nursing homes.





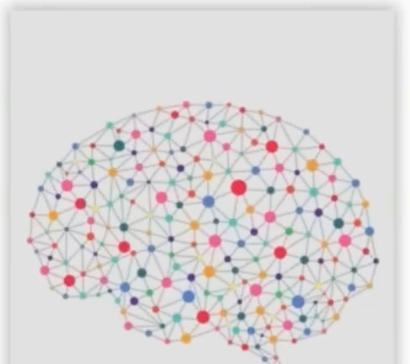
# Demand for AI



More Computational Power



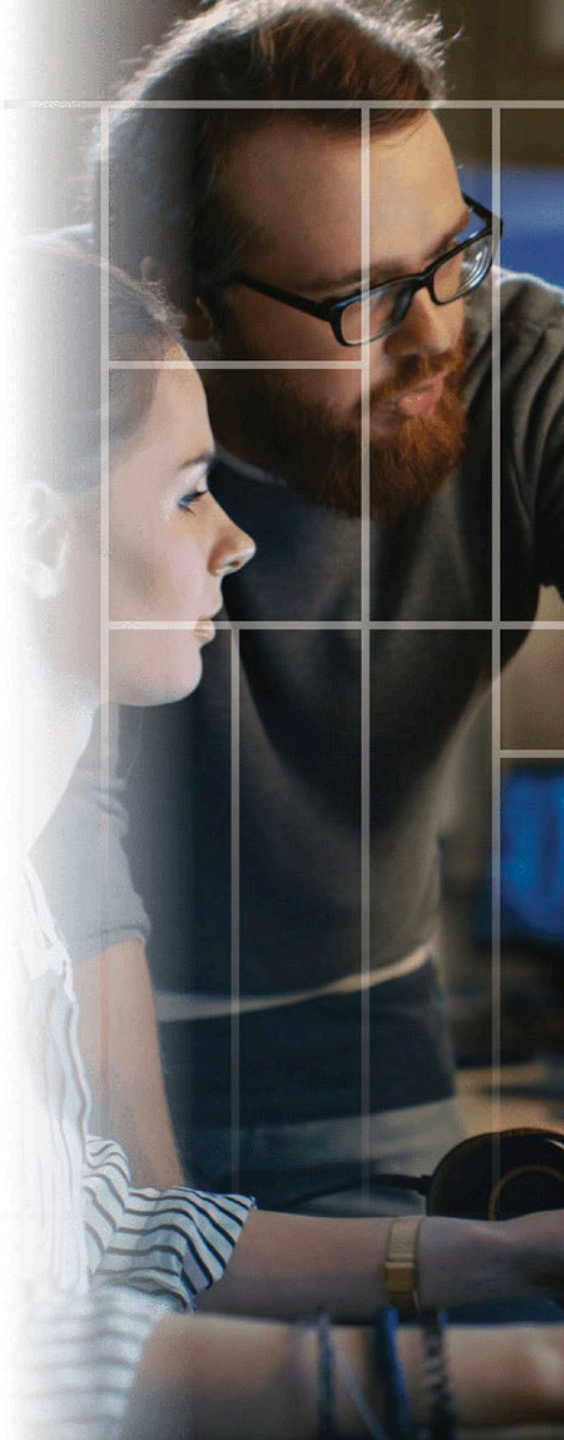
More Data



Better algorithms

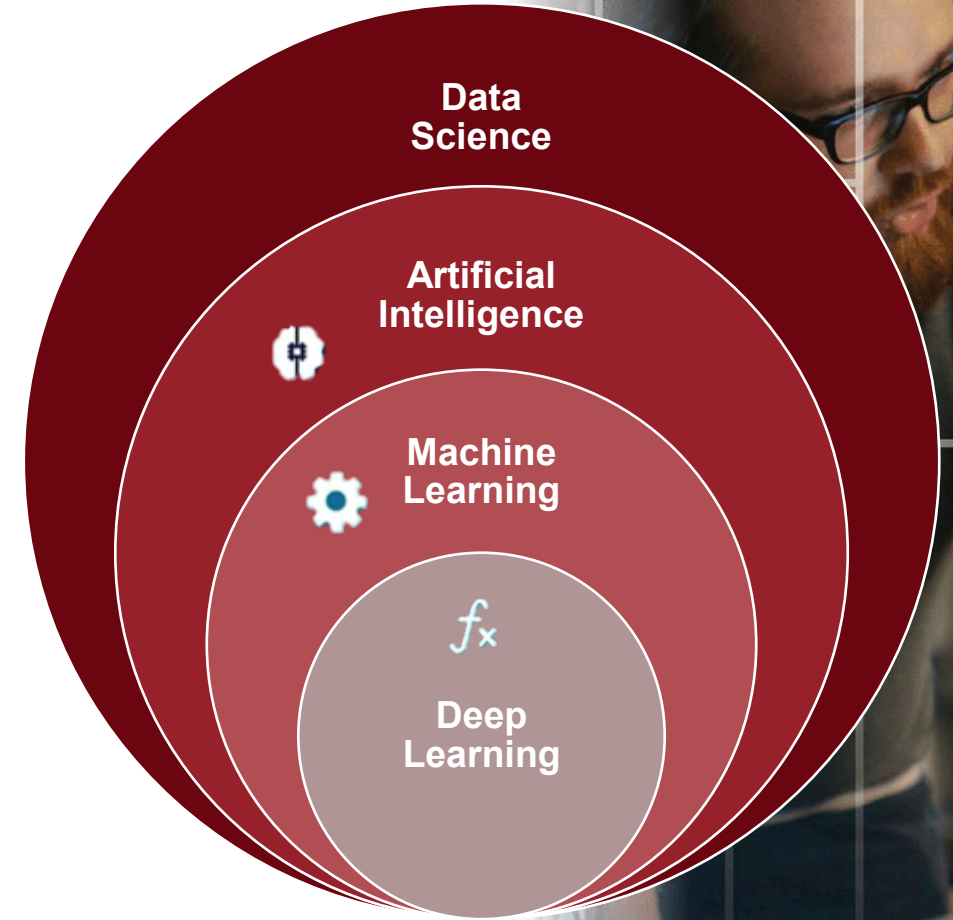


Broad Investment

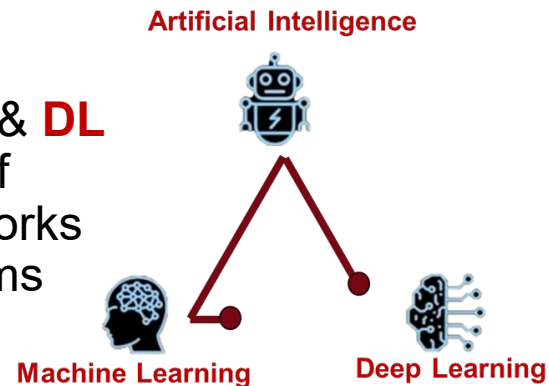


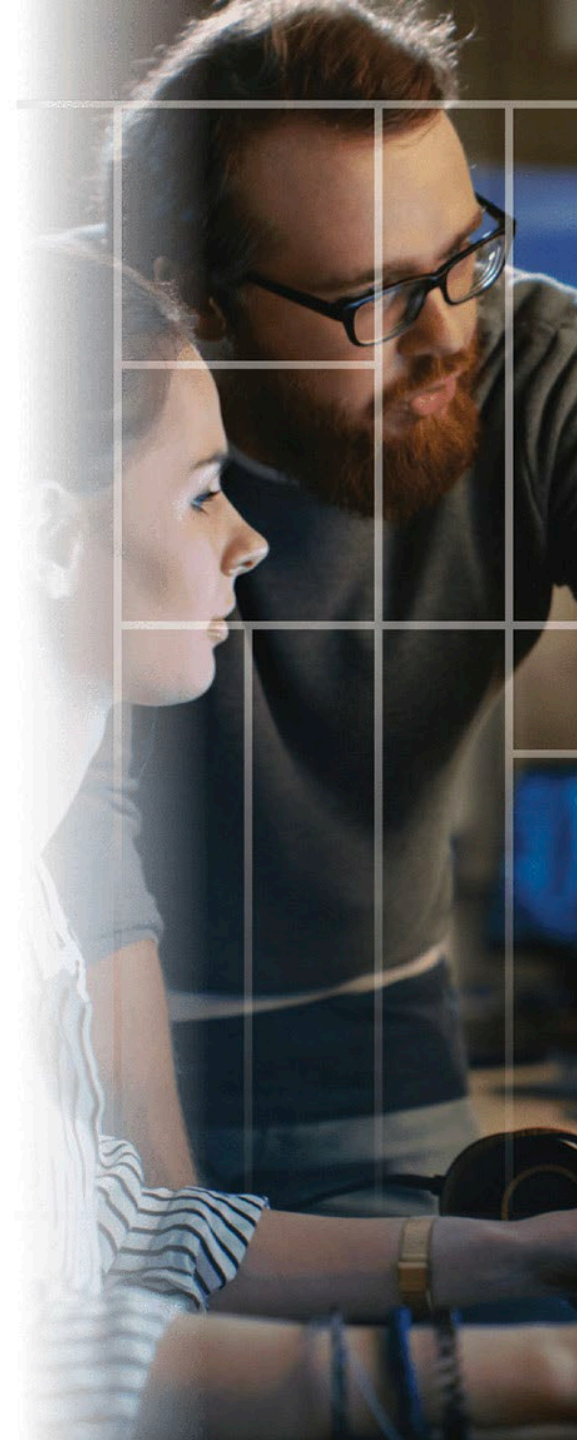
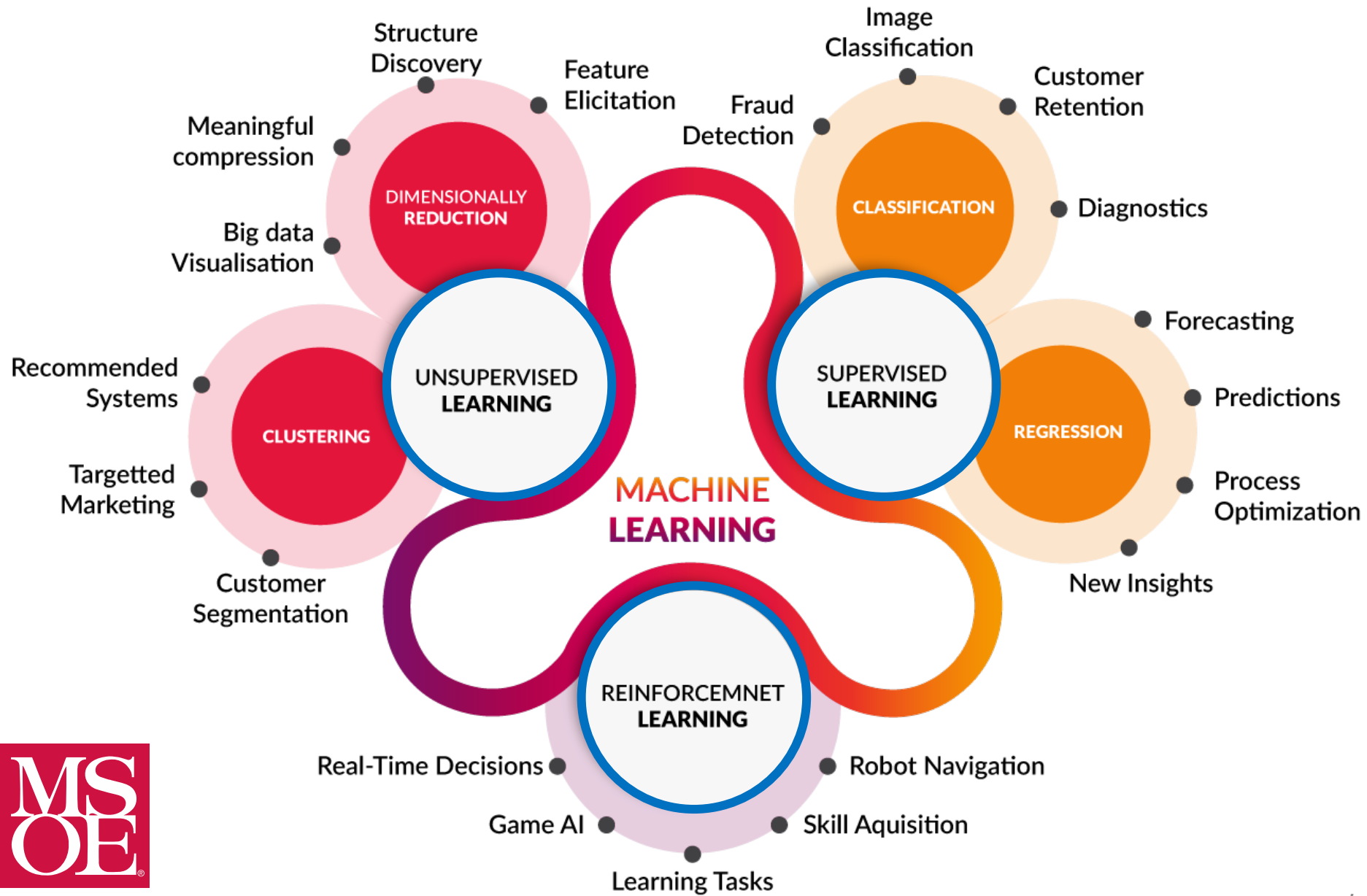
# Main AI branches

- **Artificial Intelligence** – the capability of a machine “computer” to *imitate* intelligent human behavior
- **Machine Learning** – provides systems the ability to *automatically learn* and *improve* from experience without being explicitly programmed
- **Deep Learning** – deep learning through *artificial neural networks (ANN)* “mimic of human brain”



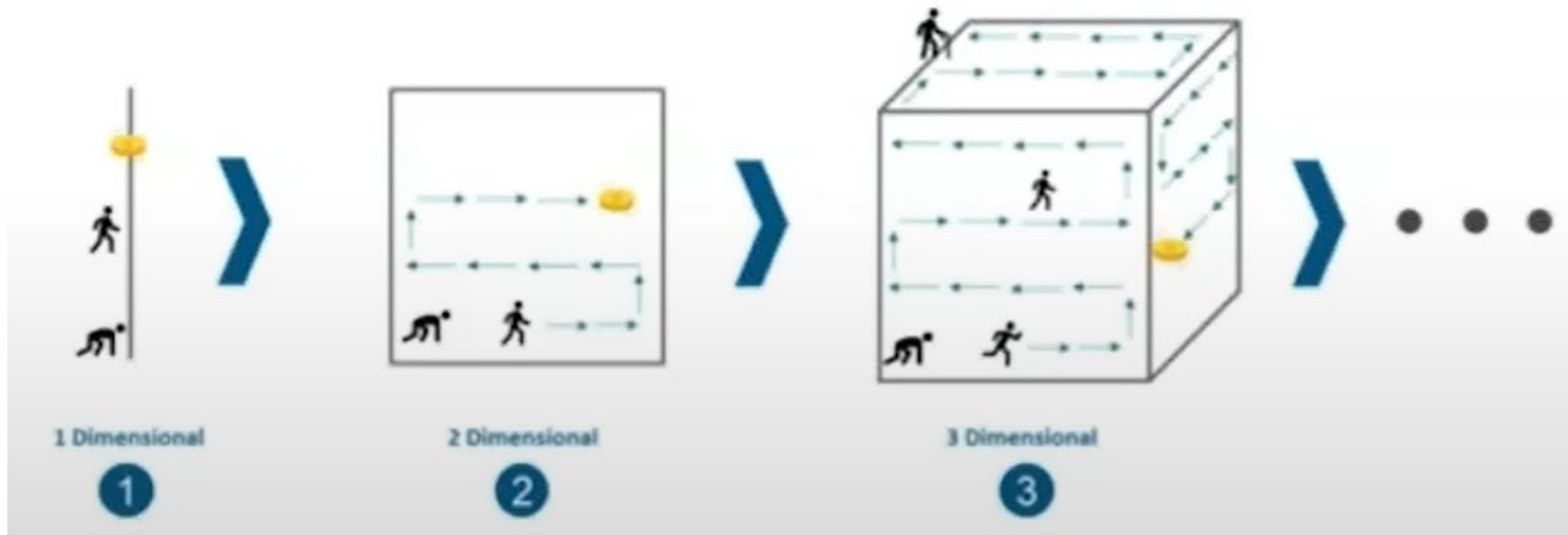
Interconnected fields – **ML** & **DL** aids **AI** by providing a set of algorithms and neural networks to solve data driven problems







# Limitations of Machine Learning



**High Dimensional data**

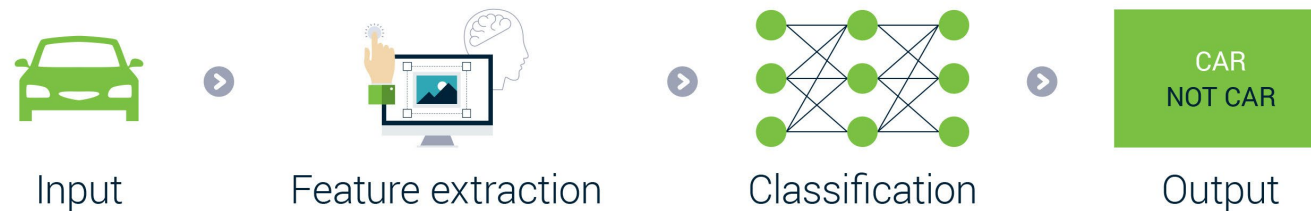




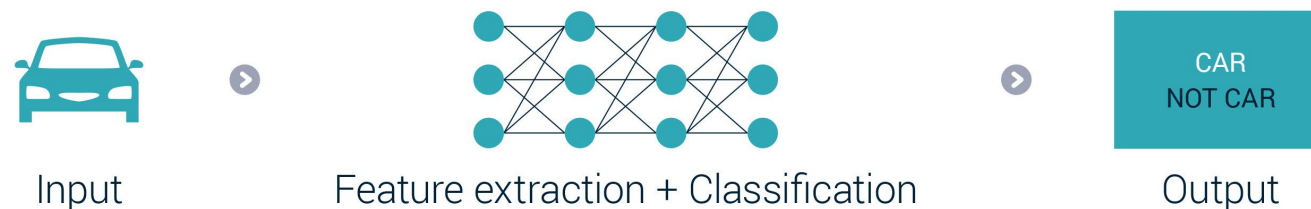
# Limitations of Machine Learning

- One of the big challenges with traditional Machine Learning models is a process called **feature extraction**.
- For complex problems such as object detection or handwriting recognition, NLP - this is a huge challenge.

## Machine Learning



## Deep Learning

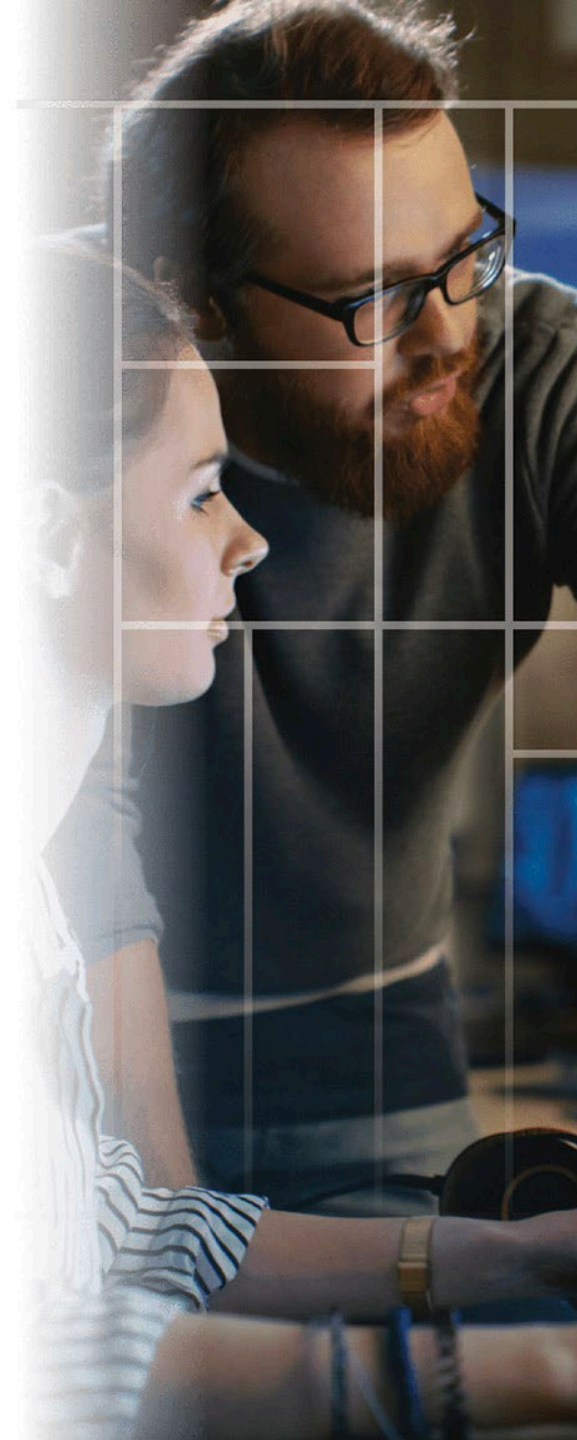
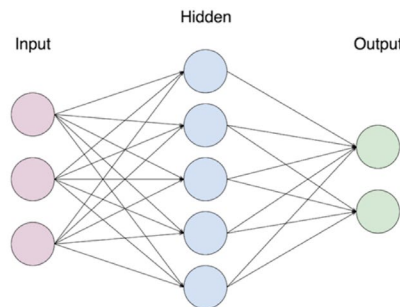
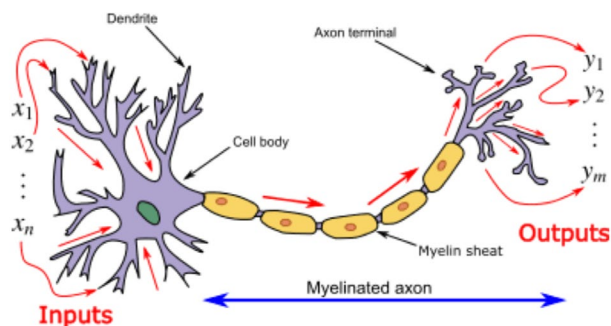
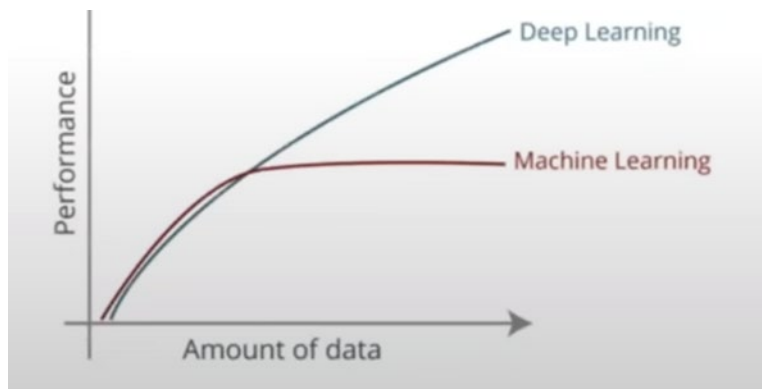




# Deep Learning



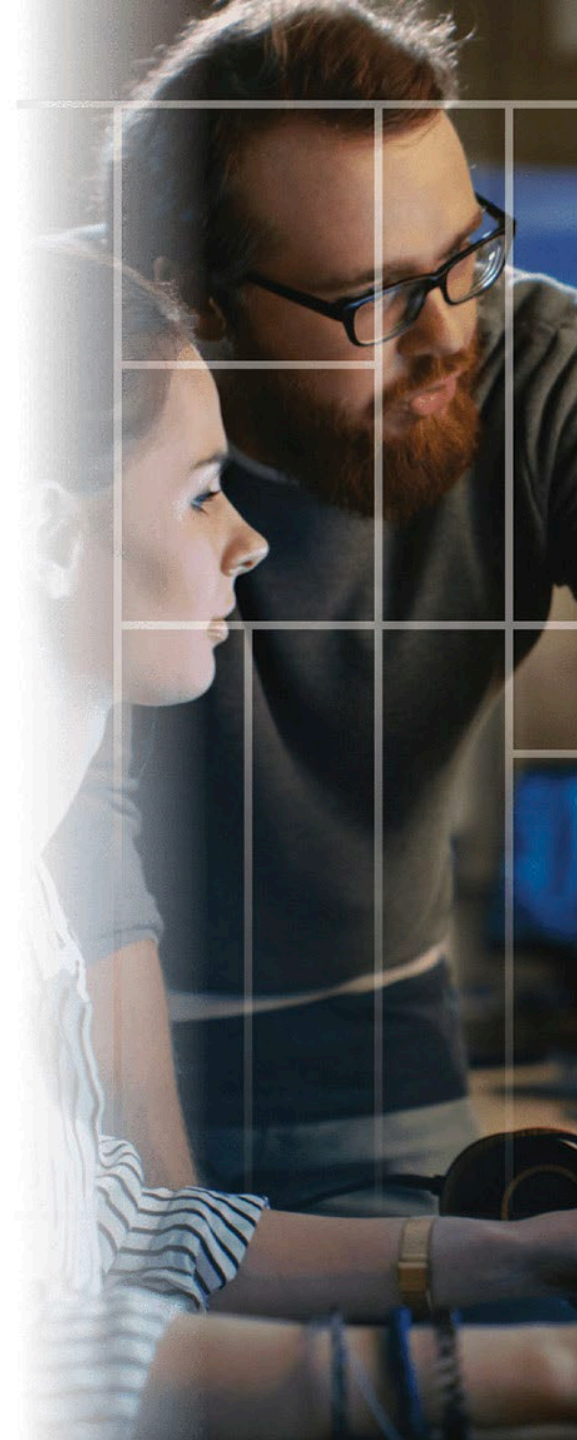
- Face verification algorithm on Facebook
- Self-driving cars
- Virtual assistants like Siri and Alexa





# How does AI work?

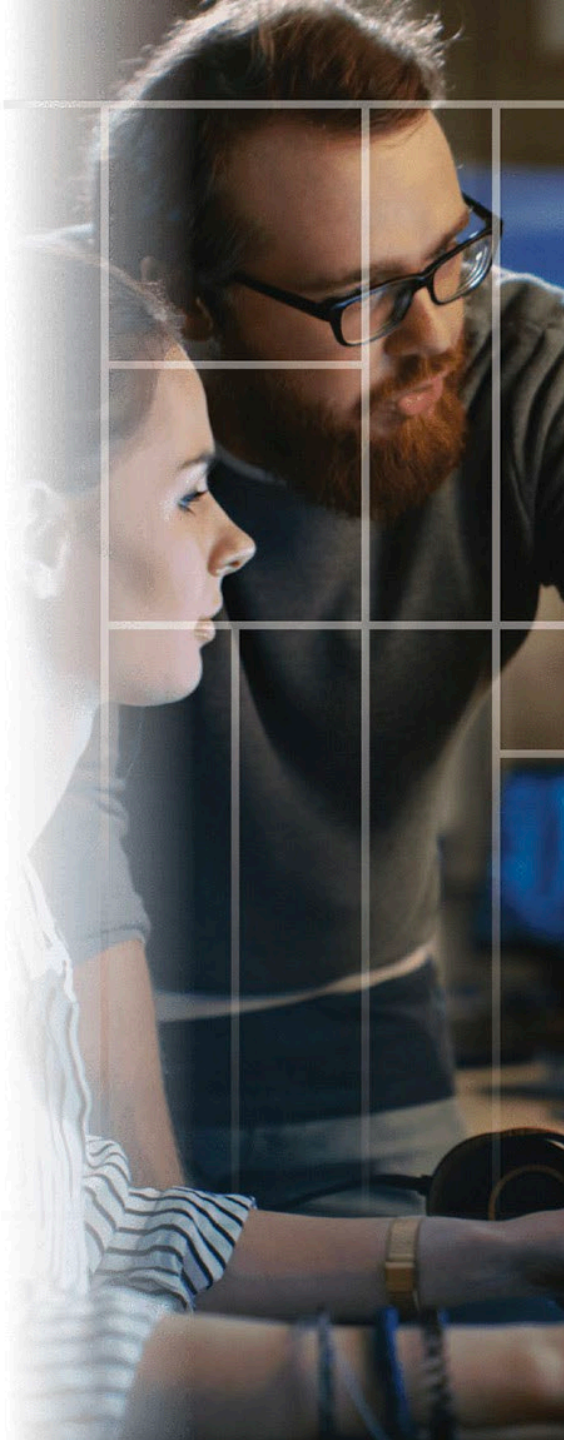
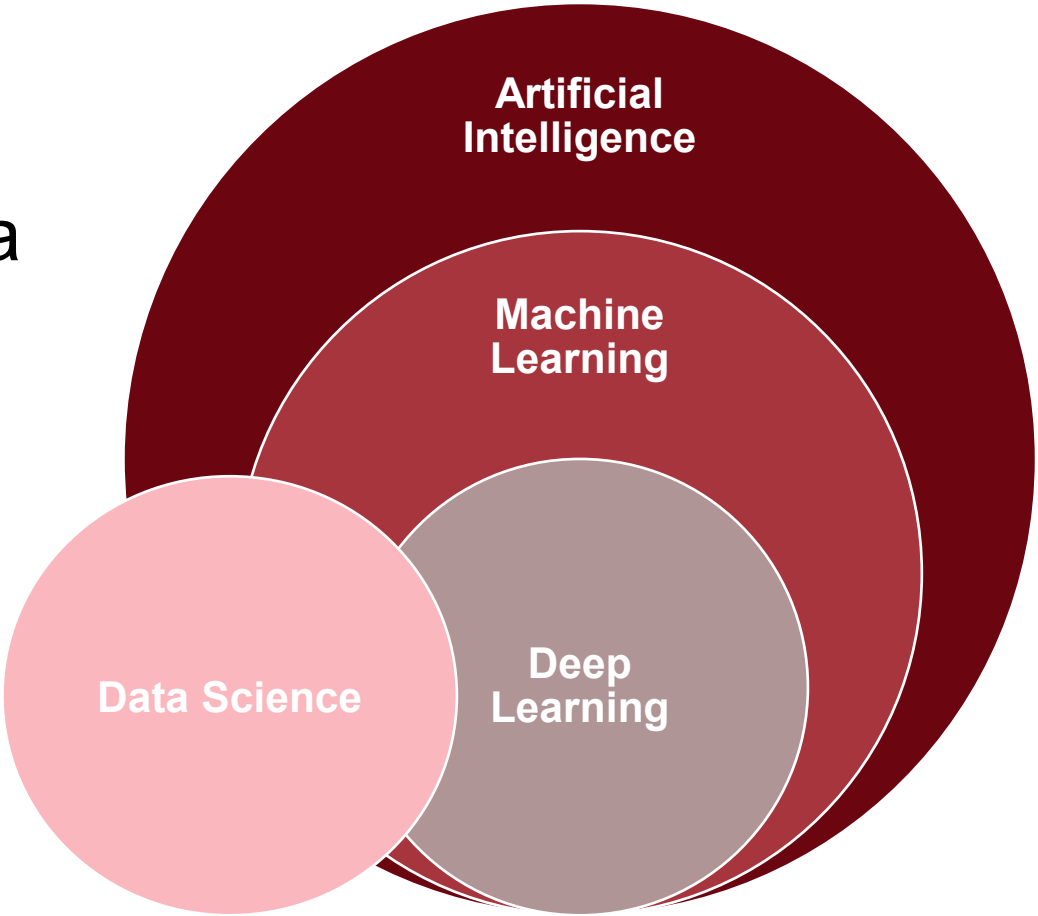
- Combining large amounts of **data** with fast, iterative processing and intelligent **algorithms**, allowing the software to **learn automatically** from patterns or features in the data.
- AI is a broad field of study that includes many theories, methods and technologies.





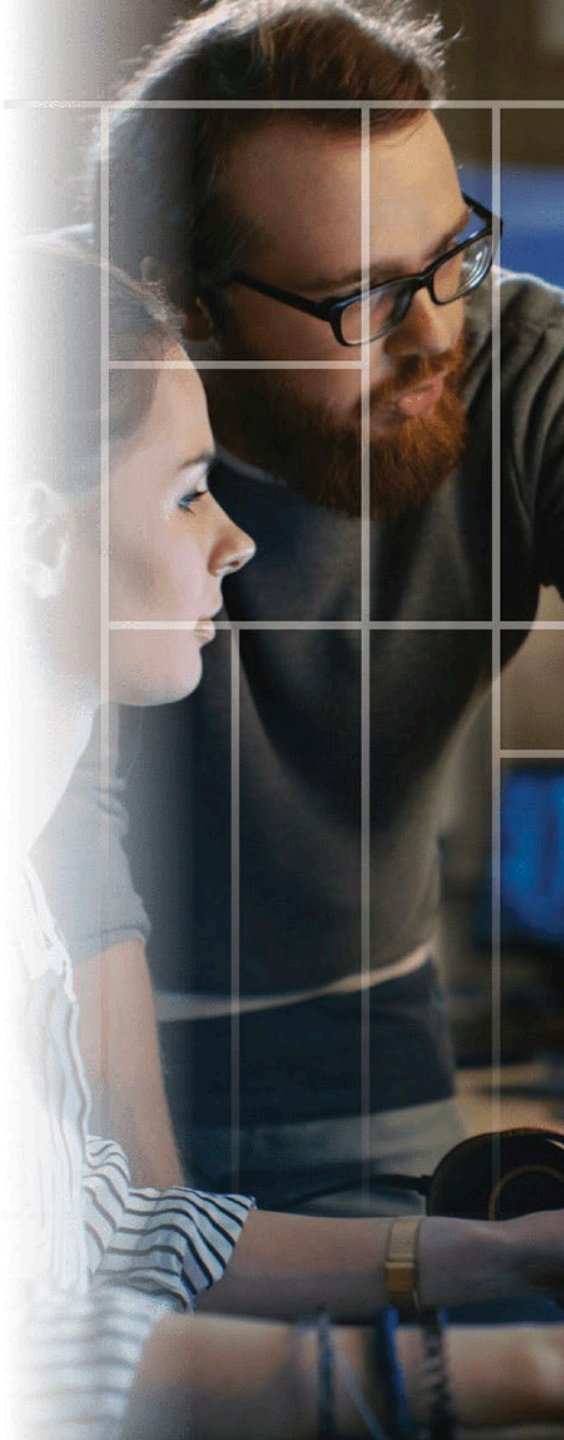
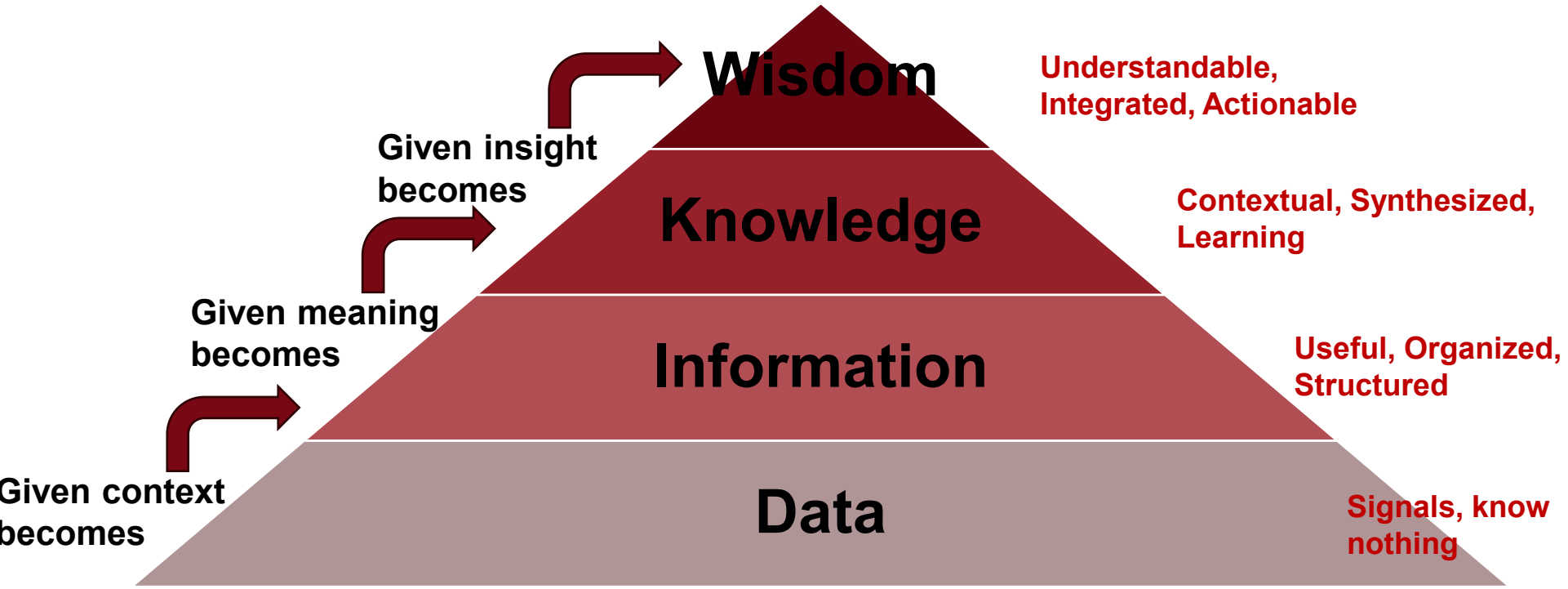
# Sources of Data

- Machine Data
- Organizations Data
- People Data

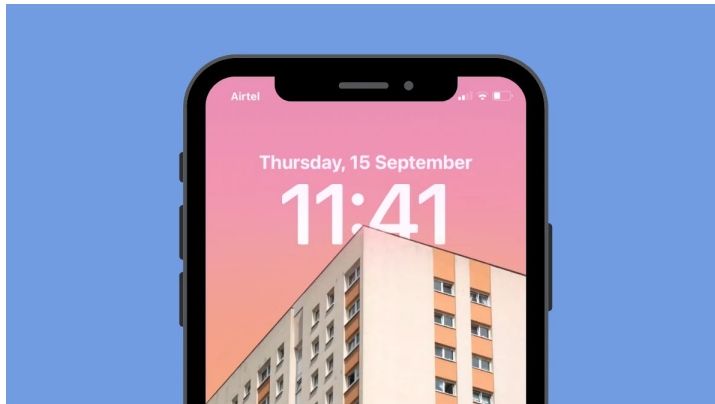
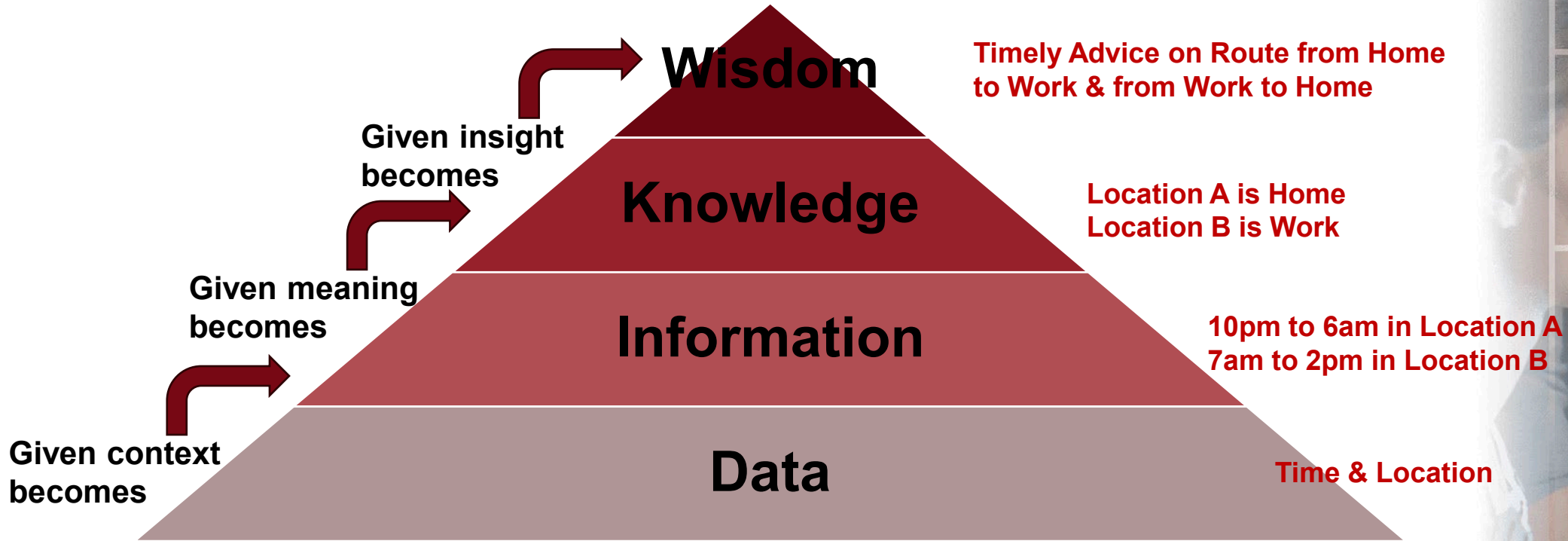




# Data – Information – Knowledge – Wisdom



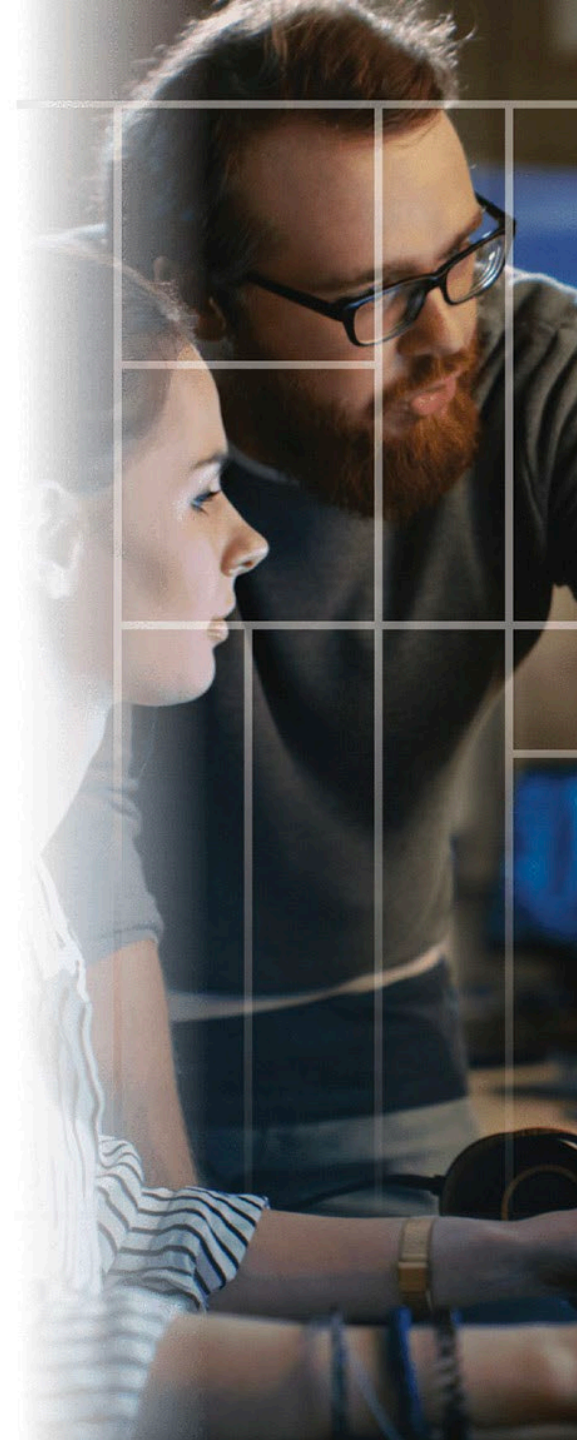
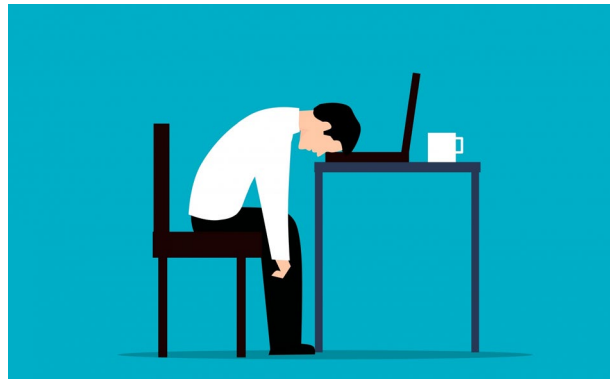
# Data - Example





# Why AI for Real Estate?

- The traditional agent would go knock on the doors of a lot of homes.
- AI can help you find the homes that are most likely to sell in the next 12 months and it does so by triangulating all associated data.
- AI allows you to go to the **self-driving dimension** - outsource the heavy lifting associated with a real estate transaction, the complexity the compliance, the paperwork, the finding of the home, the negotiation, the offers.
- It can conquer the most human component of any real estate transaction **stress!!**





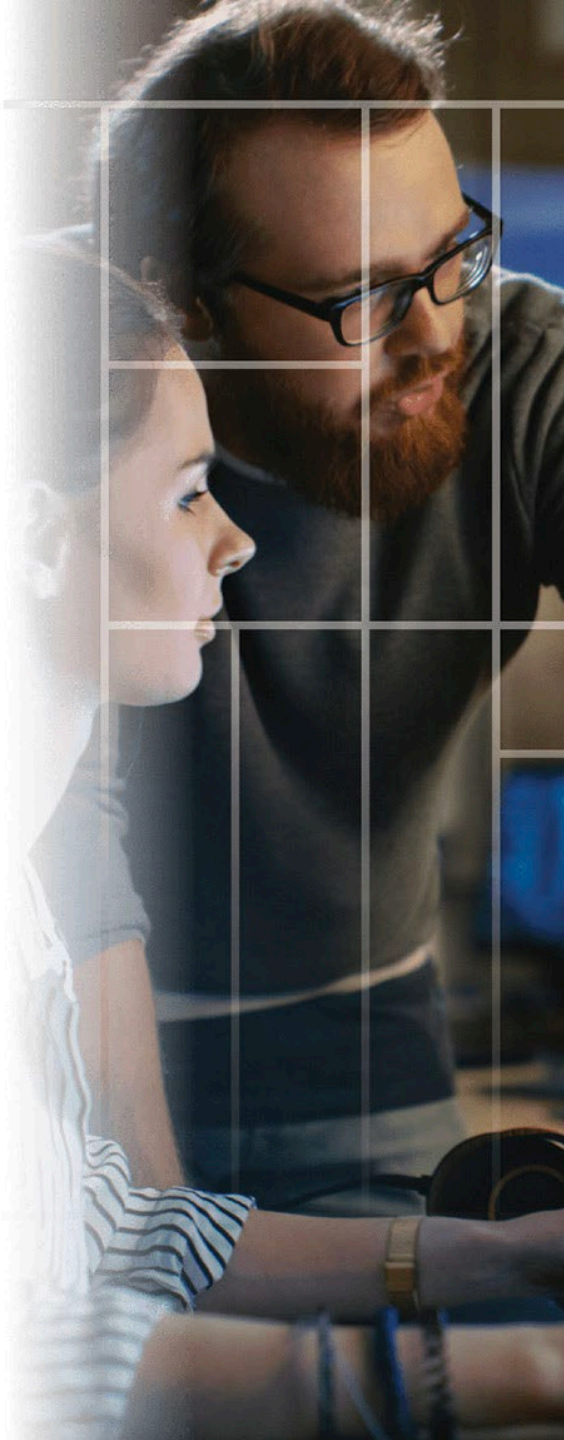
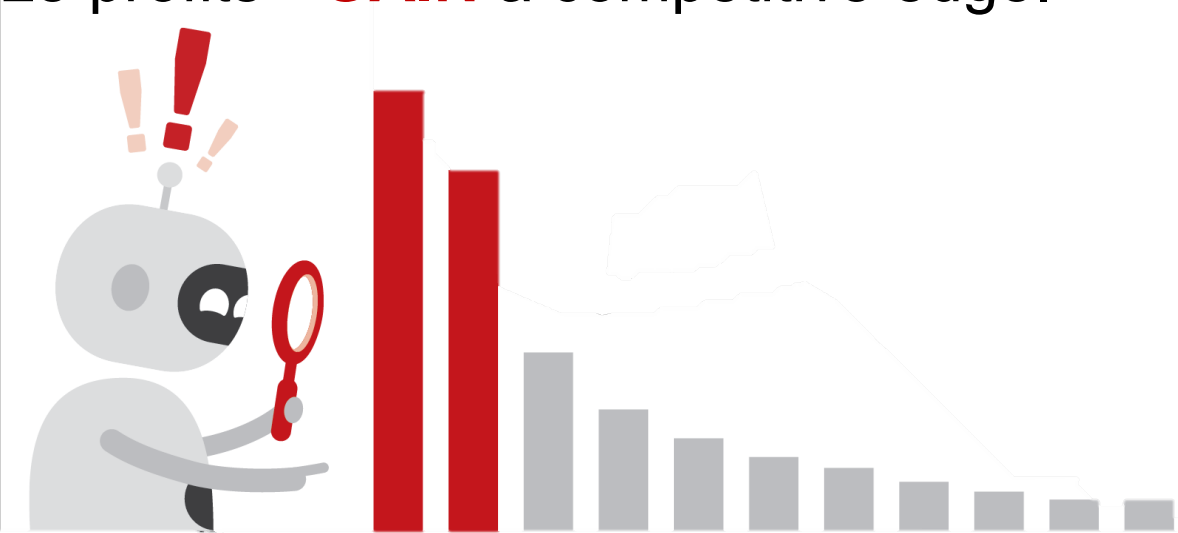
# **Key Applications of AI in Real Estate**





# Predictive Analytics

- AI allows you to conduct predictive analytics using data to:
  - Forecast trends.
  - Pricing strategies.
  - Proactive decision making for sales & purchases.
- Leverage AI to optimize investments, streamline operations, and maximize profits - **GAIN** a competitive edge.





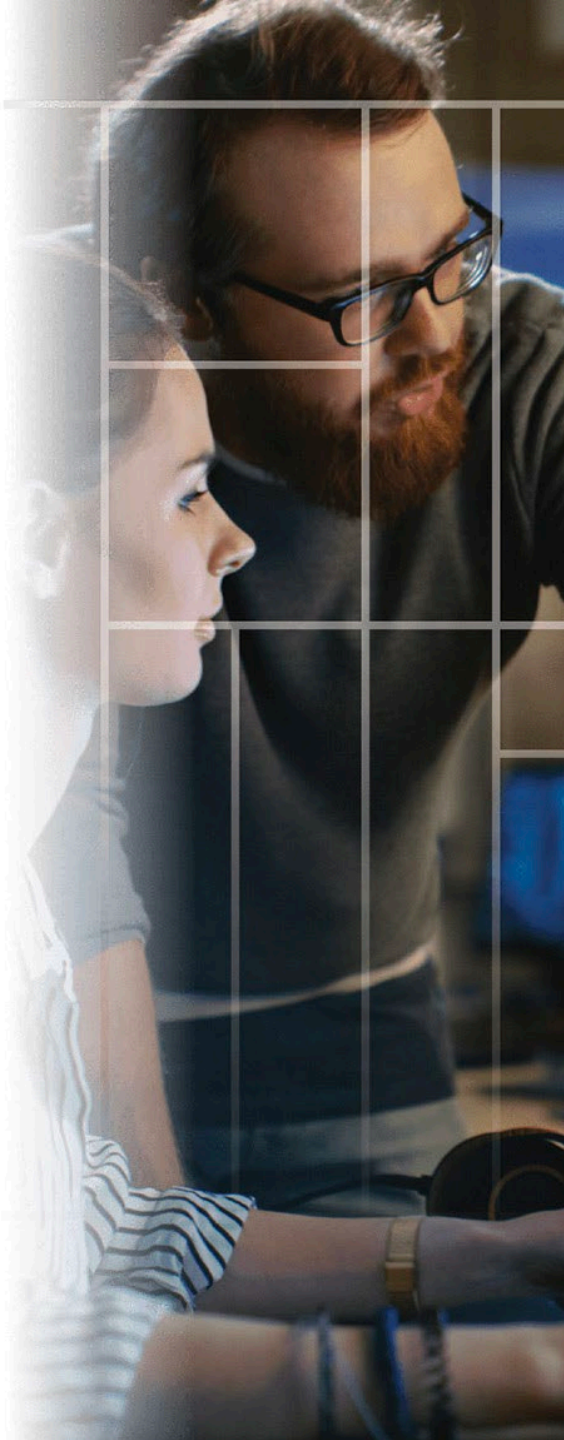
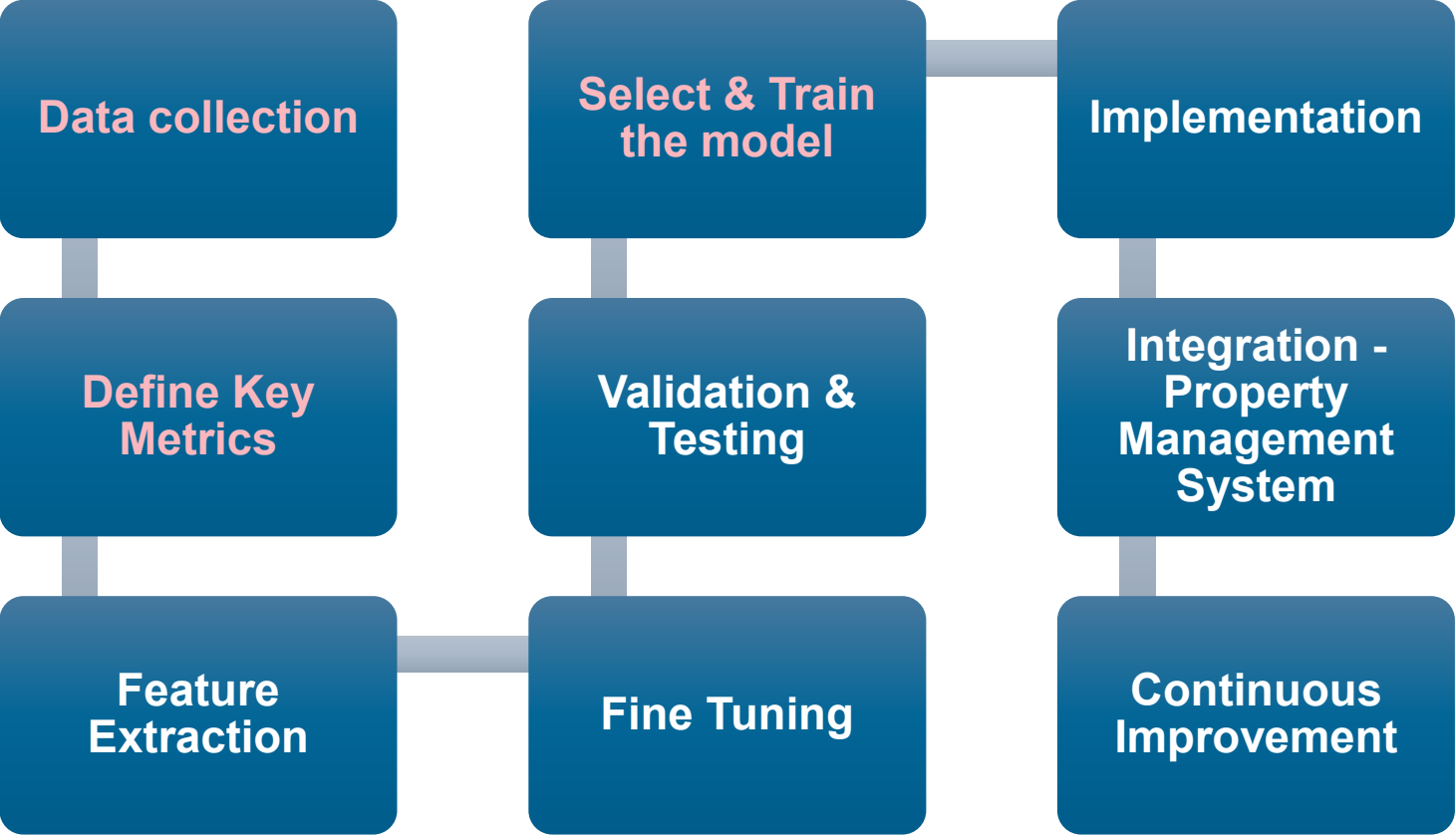
# Predictive Maintenance

- Notify property managers and homeowners about potential issues such as HVAC system failures, plumbing leaks, or roof damage.
- Enables developers plan maintenance activities and help prevent customer dissatisfaction, and costly repairs.
- Analyze complex data sets from sensors embedded in equipment and predict when maintenance or repairs will be required.





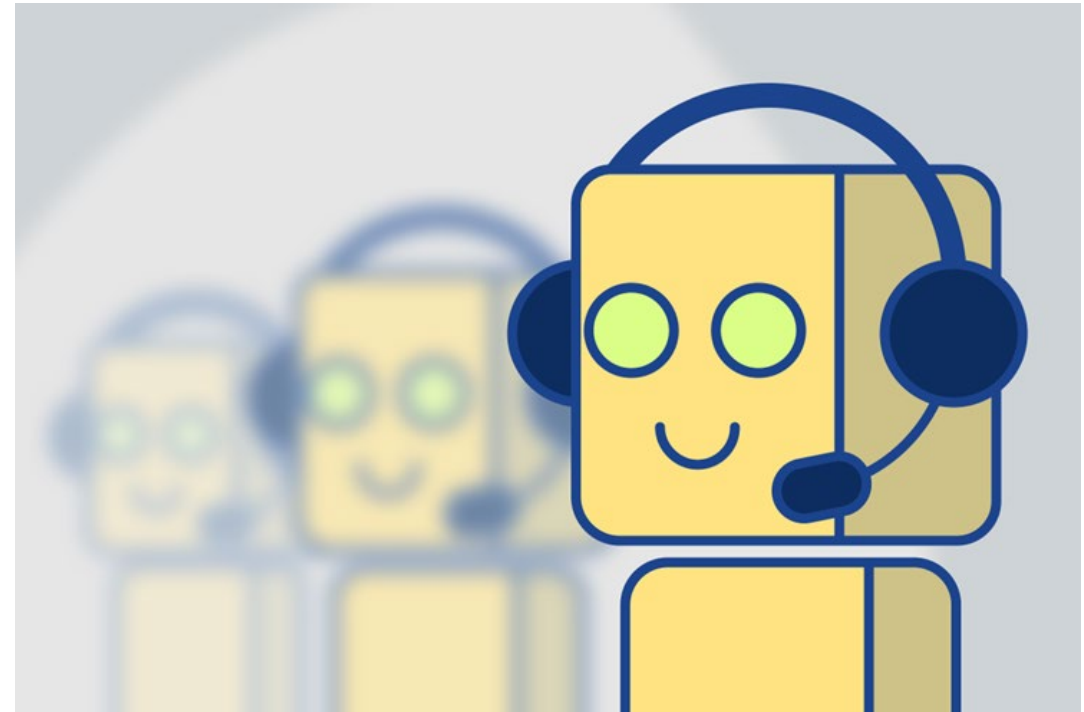
# Steps to AI Predictive Analytics





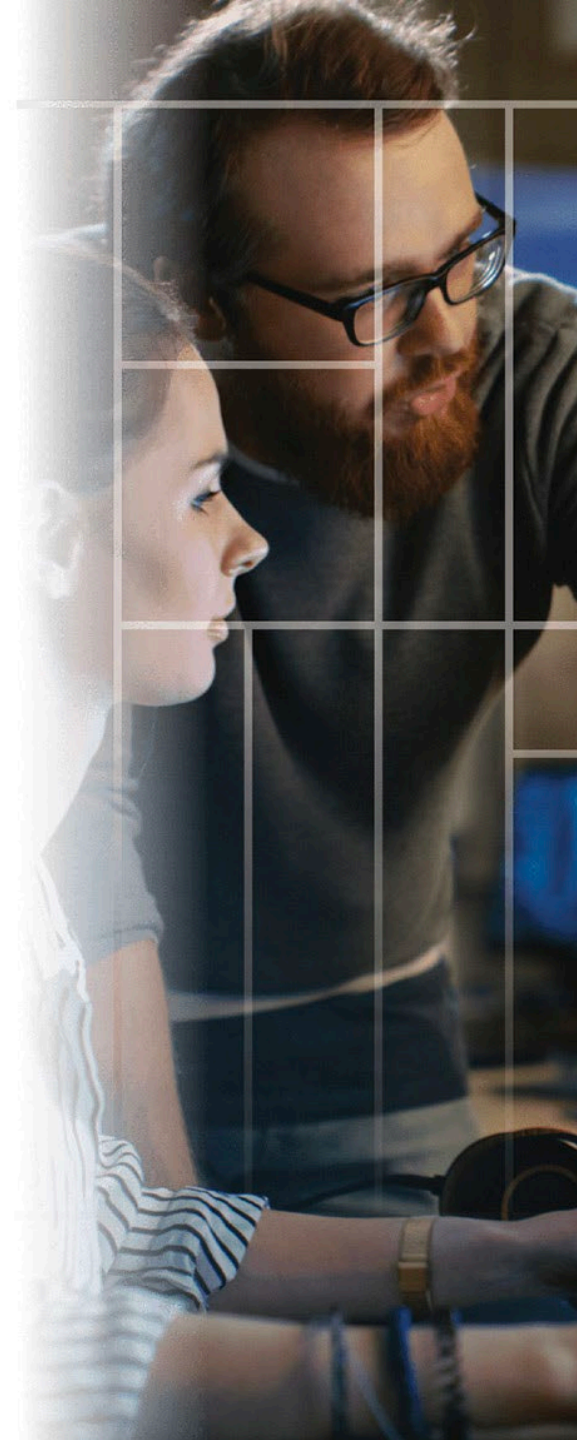
# Chatbots & Virtual Assistants

- Automated customer interaction on websites, or messaging platforms.
- Handle routine customer queries, schedule tours, providing instant responses, and freeing up the agent's time for more **complex tasks** and **interactions**.
  - Engage with potential buyers and sellers 24/7.
  - Instant responses to inquiries, enhancing customer satisfaction.



# Automated Online Listings

- Analyze user behavior and preferences to provide personalized property recommendations.
- Suggest listings that match a user's specific needs and desires by considering factors like:
  - Location
  - Budget
  - Property features
  - Property size
  - Number of bedrooms
  - Bathrooms
  - Amenities
  - Pricing information





# Other applications of AI in Real Estate

- Property Matching Algorithms
- Customer Behavior Analysis
- Lead Scoring
- Automated Contract Analysis
- Virtual Tours and 3D Imaging
- Client Relationship Management
- Risk Assessment
- Fraud Detection

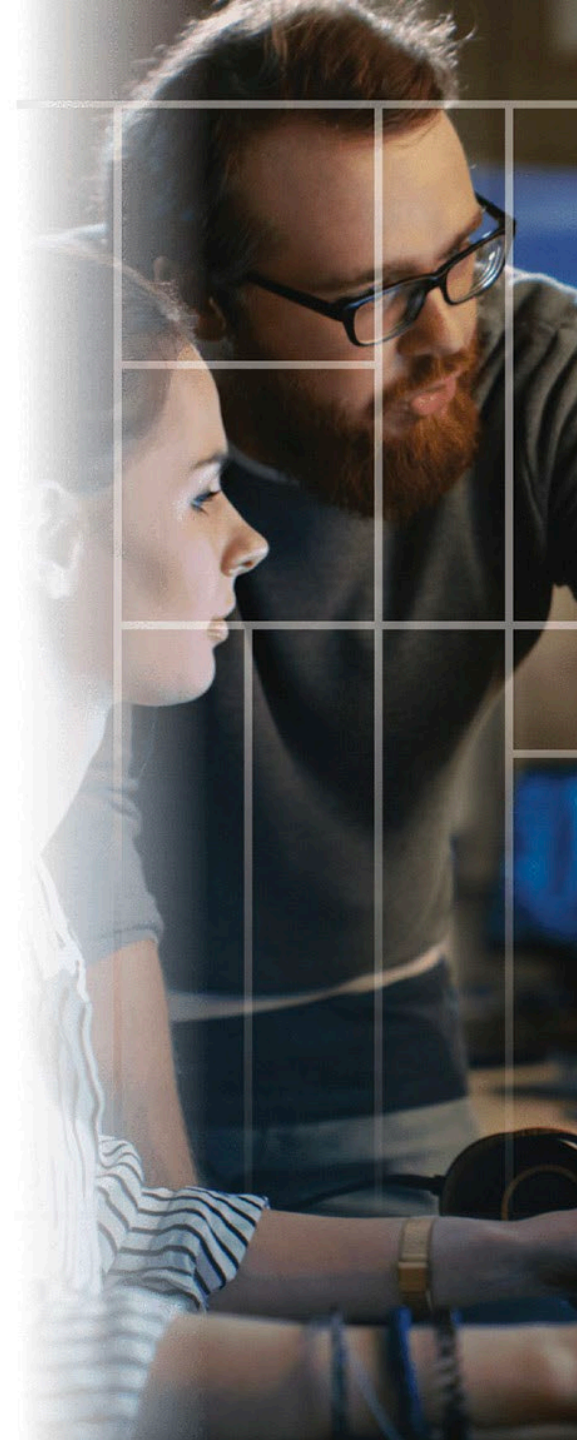




# LoanSnap

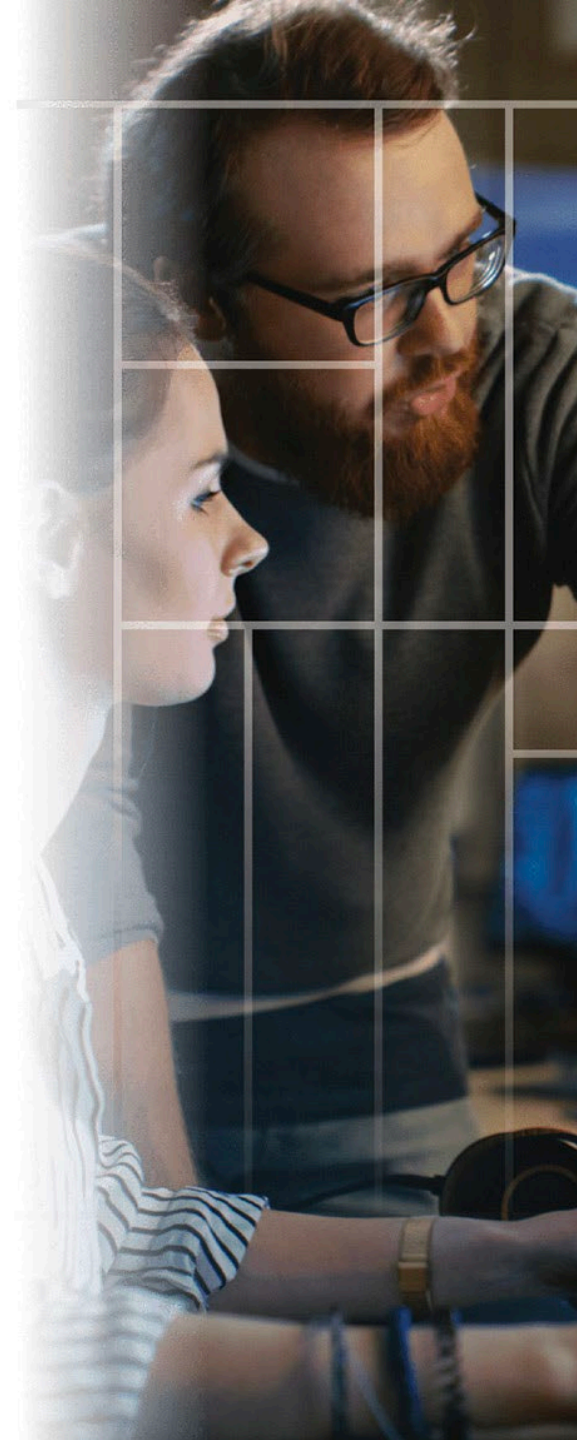


- AI can look at possibilities that would not have been looked at before
- Provide personalized mortgage solutions based on the individual financial situation
- Create the perfect mortgage for a homeowner
  - Build a financial model for a customer
  - Show them exactly how much money they're losing on a monthly and yearly basis
  - Show how they could potentially fix that issue
  - Recommend how they can save money in the future



# AI tools for Realtors

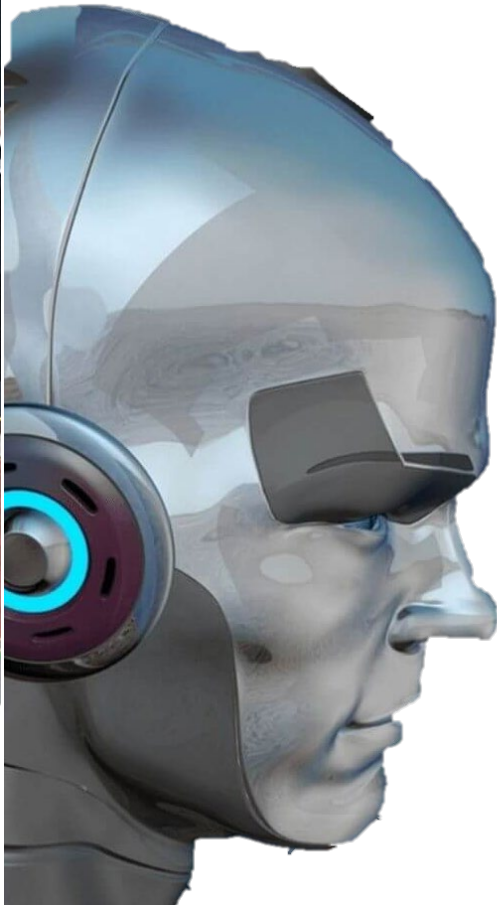
- **Chatbots:** Drift, Intercom.
- **Virtual Assistants:** Google Assistant, Siri, specialized real estate virtual assistants.
- **Predictive Analytics:** Revaluate, SmartZip.
- **Automated Valuation Models (AVMs):** Zillow Zestimate, Redfin's Home Value Tool.
- **Lead Scoring and Management:** BoomTown, Zurple.
- **Customer Relationship Management (CRM):** Salesforce Einstein, Zoho CRM.
- **Marketplace Platforms:** Realtor.com, Zillow.
- **Natural Language Processing (NLP):** OpenAI's GPT-3, Wit.ai.
- **Blockchain for Transactions:** Propy, ChromaWay.







# Preparing for the AI Future



- AI is changing the way, most industries processes their works
  - Improves **productivity**
  - Ensure **customer satisfaction**
- People can't totally rely on AI due to its instability - people should work along with AI to automate things and get better results without any failure
- Big companies can **cut down costs** by saving money on wages

# Conclusion

- Prospects of AI in all industries are promising!
- Potential to bring substantial benefits to all industries!
- Improve the efficiency, and quality of work processes.
- **Challenges:** Data standardization, connectivity, data protection, and cost issues
- To fully realize the potential of AI, industry leaders and policymakers will need to collaborate to overcome these challenges





# Q&A

