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Consult your attorney for advice concerning specific situation

Exploring How Artificial Intelligence (AI) Can Impact Local Government
The Opportunities and the Risks
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What's the hype?

"The development of AI is as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the mobile phone.

It will change the way people work, learn, travel, get health care, and communicate with each other."
Bill Gates

"...we really are on the edge of probably the biggest technology revolution that has ever existed..."
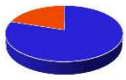Elon Musk

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What's the hype?

Until now, we've been unique in our ability to envision and craft something new where there was nothing before.

While you're reading this sentence, artificial intelligence (AI) programs are painting portraits, responding to emails, preparing tax returns, and recording songs.
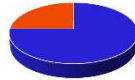
What's the hype?

80% of companies will have incorporated AI by 2026	AI is expected to see an annual growth rate of 37% from 2023 to 2030	75% of consumers are concerned about misinformation from AI

https://www.forbes.com/advisor/business/ai-statistics/
https://www.zdnet.com/article/80-of-enterprises-will-have-incorporated-ai-by-2026-according-to-a-gartner-report/

Agenda Overview

1. **How do we make decisions?**
2. **What is AI?**
3. **What are the risks?**
4. **Real world uses of AI for local government**
5. **What AI tools are available?**

How do we make decisions?

Who has bought an item from Amazon recently?

What factors were used in your decision-making process?

How do we make decisions?

How do we make decisions?

1. Information and Knowledge
Access to relevant information and knowledge is crucial in decision-making. We gather facts, data, and insights to better understand the options and potential outcomes.

2. Past experiences
Previous experiences and the lessons learned can influence decision-making.

3. Emotions
Gut feelings, intuition, and emotional responses can impact choices.

How do we make decisions?

Data-driven decision-making is an approach to making decisions in which an individual relies on **relevant and accurate data** to inform their choices and actions.

The process involves collecting, analyzing, and interpreting data to gain insights and guide decision-making processes

Large volumes of high-quality data is a key factor in to allow us to can effectively solve problems and make accurate predictions.

What is AI?

AI is a branch of computer science dealing with the simulation of intelligent behavior in computers.

How does it work?

AI processes large amounts of data, analyzing the data for correlations and patterns, and using these patterns to make decisions and predictions about the future.

Common examples of AI which we use in our day-to-day life are:

- Smartphone
  - Predictive text and Autocorrect
- Social media
  - Content recommendations
- Email services
  - Spam filters
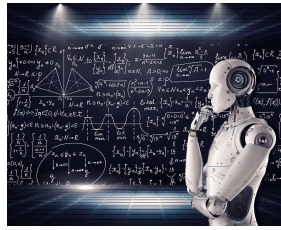
Search vs AI

The Librarian (Search) vs **The Researcher (AI)**

A **librarian** is responsible for organizing, managing, and providing access to information resources in a library setting. They are responsible for cataloging and classifying them for easy retrieval by library users.

A **researcher** collects, organizes, analyzes, and interpret data to explore issues, solve problems, and predict trends.

Types of AI

Machine Learning

The idea behind machine learning is to use sample data to train computer programs to recognize patterns based on algorithms. Machine learning programs allow computers to do things without being programmed.
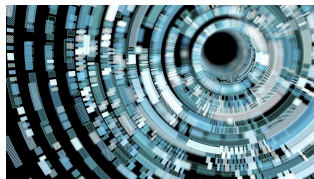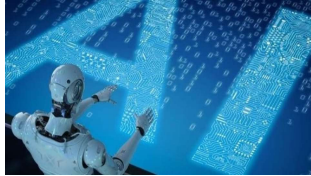
Examples:

- Recommendation systems
- Credit card fraud detection
- Traffic predictions

Types of AI

Generative AI (GenAI)

GenAI is a type of Artificial Intelligence that can create a wide variety of data, such as images, videos, audio, text, and 3D models.

It does this by learning patterns from existing data, then using this knowledge to generate highly realistic and complex content that mimics human creativity.

Examples:

‣ Large Language Models (ChatGPT / DALL-E / Bard)
‣ Image generation
‣ Audio generation
‣ Video generation

What are the risks?

Bias and Fairness

AI systems can inherit biases present in the data they are trained on, leading to unfair or discriminatory outcomes.

Lack of Transparency

Many advanced AI models, especially deep neural networks, operate as "black boxes" making it challenging to understand how they reach specific decisions.

Security Concerns

AI systems can be vulnerable to attacks where an attacker manipulates input data to deceive the AI model.

Privacy Concerns

AI technologies often collect and analyze large amounts of personal data, raising issues related to data privacy and security.

AI in action: Google Maps

How does AI help you navigate efficiently and predict your arrival time?

Data Sources
‣ Historical traffic
‣ Current traffic
‣ Weather conditions
‣ Road quality
‣ Social media

Results
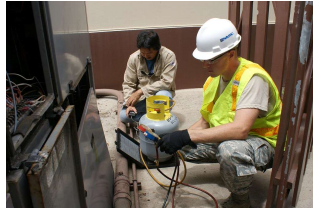‣ Estimated arrival time calculations are typically accurate within minutes

How might AI be used for local government?
Waste Collection

Data Sources
- Volume of waste generated
- Location of waste bins
- Waste collection times
- Weather forecasts
- Road conditions
- Traffic patterns

Results
- Optimize collection routes and schedules
- Reduce fuel consumption

How might AI be used for local government?
Municipal Planning

Data Sources
- Population growth
- Housing demand
- Transportation & traffic data

Results
- Predict future demand for housing or transportation
- Plan infrastructure developments more effectively

How might AI be used for local government?
City Engagement and Emergency Response

Data Sources
- Social Media
- Complaint Systems
- Public Safety Systems

Results
- Proactively address common concerns among their residents

How might AI be used for local government?
Disaster Planning

Data Sources

‣ Weather Data

‣ Infrastructure

‣ Traffic Data

Results

‣ Predict traffic patterns and plan the best route for evacuation

‣ Predict the impact of natural disasters like floods or hurricanes

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What AI tools are available?
ChatGPT (Generative Pre-trained Transformer)

The tool you can use to answer questions and assist you with tasks such as composing emails.

Let's use AI to:

‣ "Generate a list of key performance indicators for the public works department"

‣ "Help me respond to a citizens who is concerned about the lack of transparency in local government"

‣ "Describe steps citizens should take to prepare for a hurricane in South Carolina"
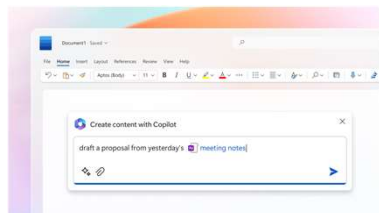

What AI tools are available?
Microsoft Copilot for Microsoft 365

Copilot works within the Microsoft 365 apps and content in Microsoft Graph, such as emails, chats, and documents that users are permitted to access

It works alongside you, embedded in the Microsoft 365 apps:

‣ Word

‣ Excel

‣ PowerPoint

‣ Outlook

‣ Teams

What AI tools are available?

Azure OpenAI Studio

Build your own copilot and generative AI applications

Data Sources:
- 2021 police incident data from Los Angeles, CA (data.gov)
- 60,000 records
- Data Set

Results
- Live Demo
  - "Compare the occurrences of different crimes"
  - "Show crimes by name, use a pie chart"
  - "Limit to top 10 and group by area"
  - "Use distinctive colors in the legend"
  - "What area should I avoid if I'm concerned about theft"