

Unlocking the Power of Artificial Intelligence (AI)

Transforming Work, Learning, and Community Impact

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Presented by August Tensuda (Community Data Program)



Canadian
CED Network



Welcome! Your AI Journey Begins Here!

What We'll Explore Today

1. Demystifying Artificial Intelligence (AI)
2. Getting Started with AI
3. Choosing your AI Tool
4. Growing with AI
5. Smart AI Use
6. AI for Community Data
7. Recap Discussion Q&A



Demystifying AI: What is Artificial Intelligence?

Artificial Intelligence (AI): Simulation of human intelligence processes (learning, reasoning, problem-solving, perception, decision-making) by machines, especially computer systems.

AI's Journey: A field with decades of history, experiencing cycles of progress and slower periods.

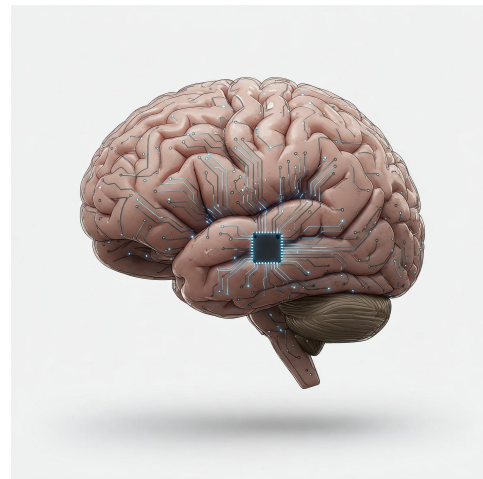
Current AI Transformation: Driven by:

- Machine learning advancements
- Unprecedented data availability
- Increased computational power

Large Language Models (LLMs):

- AI models for understanding, generating, and interacting with human language.
- Trained on vast text data to learn complex patterns and predict/generate human-like text.
- "Large" scale (billions of parameters, massive datasets) is key to their advanced capabilities.

Key Breakthrough: [Attention is All You Need](#) Transformer Architecture (2017):
Significantly improved processing of sequential data (like language), enabling much larger and more capable LLMs.



create an image for "demystifying artificial intelligence" make it iconic, white background, no text.



Getting Started with AI: Simple, Practical Uses.

- User-friendly AI tools; no technical or coding expertise required to begin.
- Many effective tools are freely available or integrated into common software.

Immediate Applications:

- Text Refinement
- Summarization
- Idea Generation
- Draft Content
- Explain Concepts
- Generate Images



*generate an image for
(pasted all slide text)*



Immediate Applications: Text Refinement

Use AI for: Proofreading, grammar checks, adjusting tone (formal/informal), suggesting phrasing.

Input

write this better.

we don't allow account sharing within our terms. Please create a separate account. We want everyone downloading data/using the data to be aware of and agree to the terms which is why we don't allow account sharing.



Output

I wanted to clarify our policy on account usage. Our terms of service do not permit account sharing. We require each individual who downloads or uses our data to have their own account. This ensures that every user has personally acknowledged and agreed to our terms and conditions.

Therefore, we kindly request that you create a separate account for your own use.



Immediate Applications: Summarization

Use AI for: Condensing articles, reports, meeting notes, documents.

"I have made this longer than usual because I have not had time to make it shorter." -Blaise Pascal

Input

*Write a 3 line
executive summary
for the attached pdf
report*



Output

This dashboard overcomes limitations in traditional Census and CMHC rental data by analyzing real-time public listings nationwide, providing timely affordability insights. It integrates multiple sources, offering aggregated data via an interactive dashboard and raw data access for CDP members. This supports evidence-based policy and planning related to housing affordability across Canada.



Immediate Applications: Idea Generation

Use AI for: Brainstorming topics, headlines, project angles, potential solutions, outlines.

Input

I'm currently using tableau blue, orange, and red in my dashboard. what would be a good background colour?



Output

Those are all bold, saturated colors – a light, neutral background will provide the best contrast and maintain a clean, professional look.

Here are three solid background options

- *Light Gray (#f5f5f5)*
- *Very Light Beige (#fdfaf6)*
- *Off-White (#fcfcfc)*



Immediate Applications: Draft Content

Use AI for: Getting started when facing a blank page, generating variations.

Input

I am writing a report on poverty. Can you write an introduction about poverty and its social implications?



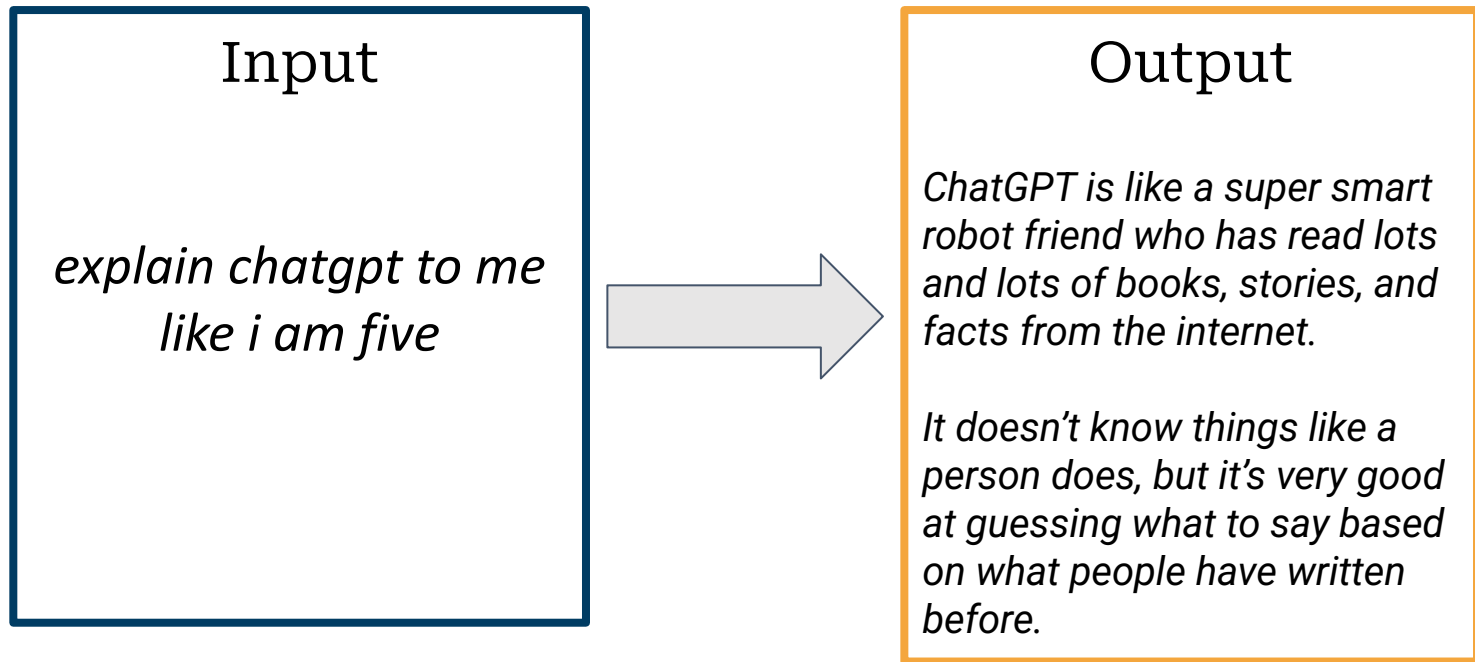
Output

Poverty is a persistent and complex social issue that affects individuals, families, and communities across the globe. It is commonly defined as the lack of sufficient income or resources to meet basic needs such as food, housing, education, and healthcare. However, poverty extends beyond material deprivation; it often results in social exclusion, limited access to opportunities, and diminished quality of life.



Immediate Applications: Explain Concepts

Use AI for: Breaking down jargon, providing analogies, explaining processes step-by-step.



Immediate Applications: Generate Images

Use AI for: Presentation slides, social media graphics, quick illustrations

Input

Create a logo for "The Community Data Program". No preferred colours but keep them happy. The style should be playful. Include elements that convey the themes of data and community. Include this text "The Community Data Program"



Output



Choosing Your AI Tool: Common Strengths & Specialties

Key Idea: **Different models excel at different tasks.** The "best" choice depends on your specific need.

- Common General-Purpose Models (Text, Code, Analysis, Conversation):
 - [ChatGPT](#) (OpenAI)
 - [Claude](#) (Anthropic)
 - [Gemini](#) (Google)
- Dedicated Image Generation Tools:
 - [Midjourney](#)
 - [DALL-E 3](#) (OpenAI)
 - [Stable Diffusion](#) (Stability AI)

Tip: Experiment! **Many offer free tiers.** Try the same prompt on different models to see which gives you the best results for your work.

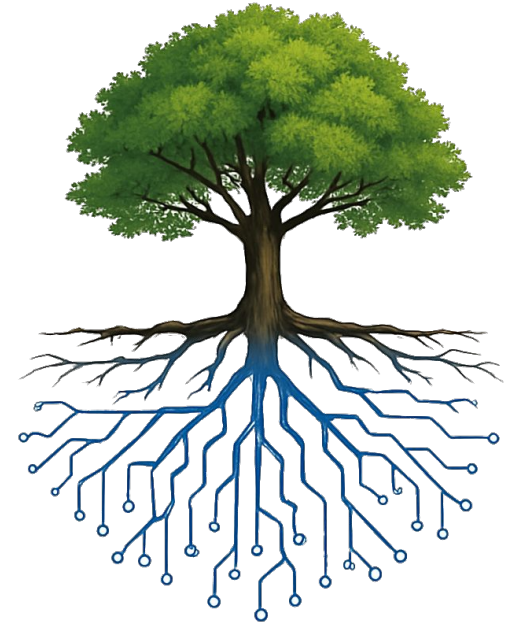


Create an image exemplifying choosing your ai tool. Do not include any words.



Growing with AI: Enhancing Skills & Expertise

- For those with existing knowledge and skills, AI serves as a powerful efficiency multiplier.
- AI accelerates workflows and processes; it does not replace core domain expertise.
- **Enhanced Applications:**
 - Graphic Designer
 - Software Developer
 - Data Analyst
 - Research Scientist
- Leveraging AI effectively requires the expert's ability to guide, evaluate, and refine the output.



create an image that exemplifies "growing with artificial intelligence" for a presentation slide. I was thinking maybe combine a tree root system with digital circuitry



Enhanced Applications: Graphic Designer

Generating initial image concepts, elements, or variations for professional editing and integration.



The Community Data Program



Enhanced Applications: Software Developer

Using AI to rapidly generate code snippets, functions, or boilerplate and “vibe coding”

I have a shapefile (shape.zip) in the EPSG:3348 CRS, and a CSV file (points.csv) containing point data with X and Y columns in UTM coordinates, along with an Income column. Write Python code that transforms the point coordinates to match the shapefile CRS and calculates the average Income for all points that fall within each polygon in the shapefile.

Write a Python script that takes an input image and splits it into 10 equally sized segments with 5% overlap between them, formatted to fit letter-sized paper (8.5 x 11 inches) in landscape orientation for printing

write a quick python script that will look at all files in the directory and remove the text "NEEDS_REVIEW_" from the file names

Write a Python code that adds a "Table of Contents" sheet to the beginning of an Excel workbook. The TOC should list all other sheets in the workbook (excluding itself) with their names and the value in cell A1 of each sheet (used as the table name). Each entry in the TOC should link to the corresponding sheet, and each sheet should have a hyperlink in cell A1 labeled "Back to Table of Contents" linking back to the TOC. Also, ensure column widths in the TOC are adjusted for readability.



Enhanced Applications: Data Analyst

Quickly creating complex formulas, queries, or refactoring existing work

Don't change anything in this power query except the step names and add comments explaining each step.

explain this regex

```
single_room_pattern =  
r'^(?!. *b(?:[2-9]|[1-9][0-9]+|two|three|four|five|six|seven|eight|nine|ten|multiple|double|triple|[0-9]+\s*\+\s*[0-9]+)\s*(?:-\s*bed(?:room)?s?|- \s*rooms|\s*br)). *b(?:single\s*room|1\s*room|one\s*room|1\s*bedroom|one\s*bedroom|room\s*for\s*rent|bedroom\s*for\s*rent)\b
```

If on average 5 people visit a store per hour then what is the probability that 7 people will visit in a single hour?

Interpret these summary statistics and suggest further methods of data exploration.



Enhanced Applications: Data Analyst

Data Collection



\$2,480.00

109 Greenpark Close - Greenpark Suites Apartment for Rent

Halifax · 1 day ago

LIMITED TIME OFFER - Receive ONE MONTH OF FREE RENT For a limited time, sign a lease within 24 hours of your viewing and enjoy ONE MONTH FREE RENT...

📍 Regency Park Drive / Greenpark Close | 🚗 2 🛏 1 🏠 Apartment 📞 0

📏 1216 sqft 🌿 Yes



\$2,000.00

Two bed renovated flat with heat pump

Halifax · 2 days ago

Bright & Newly Renovated 2-Bedroom Apartment Central Fairview

Location: Central Fairview Quiet, Residential Street Bedrooms: 2 Bathrooms: 1...

📍 Fairview | 🚗 2 🛏 1 🏠 Apartment 📞 1

Additional Options ✅ Online Application



\$1,675.00

3547 Acadia ~ Great 2 BR Main Floor Flat in Halifax!

Halifax · 2 days ago

Available Now! Well maintained 2 Bedroom, 1 Bath Flat north end Halifax! Walk in to eat-in kitchen from private patio into this spacious flat! Large living area off...

📍 North End | 🚗 2 🛏 1 🏠 Apartment 📞 1 🌿 Yes



tabulate the data in this image

Okay, here is the data from the image tabulated:

Price	Description	Location	Listed	Bedrooms	Bathrooms	Type	Parking
\$2,480.00	109 Greenpark Close - Greenpark Suites Apartment for Rent	Halifax	1 day ago	2	1	Apartment	0
\$2,000.00	Two bed renovated flat with heat pump	Halifax (Fairview)	2 days ago	2	1	Apartment	1
\$1,675.00	3547 Acadia ~ Great 2 BR Main Floor Flat in Halifax!	Halifax (North End)	2 days ago	2	1	Apartment	1

📄 Export to Sheets

Enhanced Applications: Research Scientist

Drafting literature reviews, summarizing papers, generating hypotheses, or suggesting experimental design elements.

I originally wrote X. A reviewer commented Y. I want to know if my new text Z covers the reviewers comment sufficiently.

I am doing a study on X, please research this topic and write a literature review.

You are a reviewer for a scientific article publisher. Please read and comment on my writing.



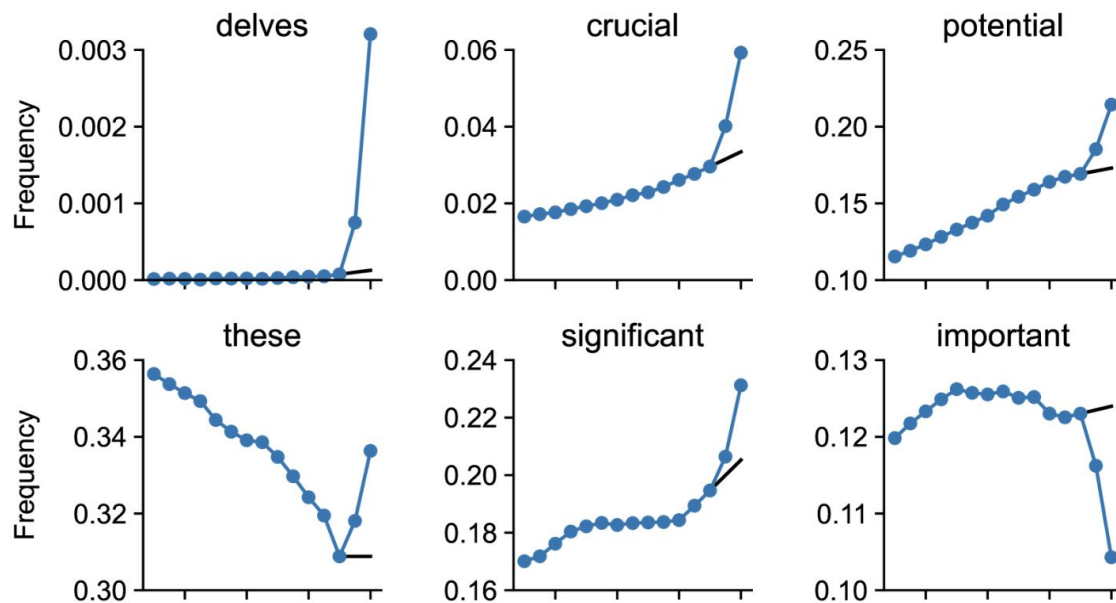


Figure 1: Frequencies of PubMed abstracts containing certain words. Black lines show counterfactual extrapolations from 2021–22 to 2023–24.

Source: Kobak, D., Gonz  les-M  rquez, R., Horv  t, E. A., & Lause, J. (2024). *Delving into ChatGPT usage in academic writing through excess vocabulary*. arXiv:2406.07016v1.



Smart AI Use: Important Considerations

Context & Memory:

- AI models have limited 'memory' within a single conversation (context window).
- Start new chats for distinct topics to avoid confusion.

Prompt Engineering:

- Be clear, specific, and provide sufficient background/context.
- Define the desired role, audience, format, and tone.
- Focus on what you want, not on what you don't want.

Beware Hallucinations:

- AI can confidently generate incorrect or fabricated information (facts, sources, details).
- Outputs can sound plausible but be completely wrong.
- ALWAYS VERIFY critical information, especially facts, figures, and code.

Data Ownership



AI for Community Data: Driving Local Impact

Leveraging Local Insights: AI can analyze diverse community data (demographics, health, environment, infrastructure) to identify needs, predict trends, and inform action.

Real-World Examples:

- Needs Assessment Writing (HelpSeeker Technologies)
- Infrastructure Planning (University of Toronto)
- Demonstration





AI for Community Data: Needs Assessments

HelpSeeker Technologies has developed an AI tool to automate community needs assessments

[Harnessing AI for Effective Needs Assessments: A New Era in Social Infrastructure Planning](#)

Tenure

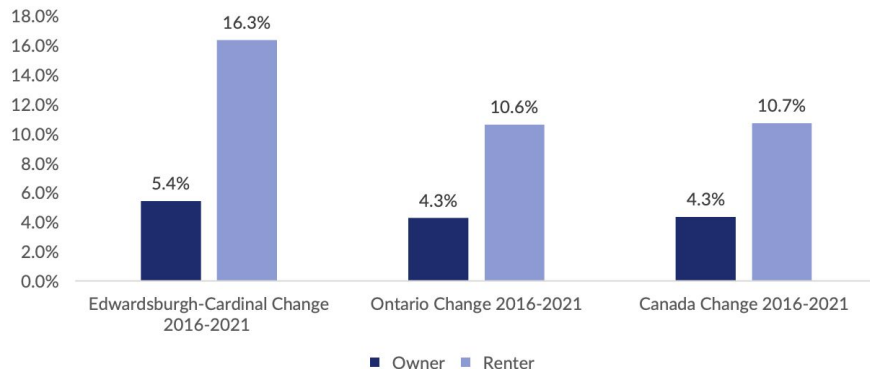
Homeownership continues to be the dominant form of housing tenure in Edwardsburgh/Cardinal, the proportion of renters is growing at a faster rate. This could be reflective of broader demographic trends, such as younger individuals or families who are more likely to rent, moving into the area.

Edwardsburgh/Cardinal, Ontario, and Canada all saw a similar increase in the total number of private households, with a growth rate of approximately 6-7%.

Homeownership: The number of homeowners in Edwardsburgh/Cardinal increased by 5.4% over the five-year period, which is slightly higher than the growth rate in Ontario (4.3%) and Canada (4.3%). As of 2021, there were 2,530 homeowners in Edwardsburgh/Cardinal, accounting for a significant majority of private households.

Renting: The number of renting households in Edwardsburgh/Cardinal grew at a faster rate (16.3%) than homeownership, which is consistent with the trends in Ontario (10.6% growth in renters) and Canada (10.7%). By 2021, the number of renters in Edwardsburgh/Cardinal had reached 605 households.

Household Tenure Changes



AI for Community Data: Infrastructure Planning

Infrastructure Planning (Centre for the Sustainable Built Environment, University of Toronto): Developed an AI model that can predict a buildings age, size, and height based on its Google Street View

[Image-based prediction of residential building attributes with deep learning](#)



(a) pre-1920



(c) 1940-1960



(f) post-2000

Examples of buildings with correct age predictions for selected age classes.



AI for Community Data: Demonstration



create a video of thunder bay



Recap Discussion Q&A

Recap

- Regardless of your skill level, AI has something to offer you.
- Start exploring AI in your own way today.
- Remember
 - Context & Memory
 - Prompt Engineering
 - Beware Hallucinations
 - Data Ownership

Discussion

- How do you use AI in your day to day life?
- Are you excited for the future of AI?
- What is the worst AI blunder you have seen?

