# *Let me recommend you...*

#readMoreCanlit
& recommender
systems

Shawn Syms

MUSIC

amazon

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# Agenda

- Overview
- My model and its use case
- Problem statement
- Approach
- Findings
- Limitations & challenges
- Next steps

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Ever wonder how Netflix knows what to suggest you watch next?
NETFLIX
I'll let you in on the secret.

# Recommender systems

- Today's internet is overwhelmingly full of data
- Businesses, especially e-commerce businesses, want to make your choices easier
- One tool that's increasingly common online is the recommender system
- Recommender systems present you with personalize options, such as what to browse, watch, listen to, or purchase

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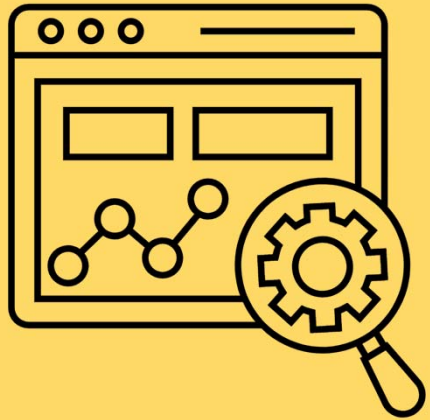
# Types of recommender systems

- A recommender system is a machine-learning model that is trained to make recommendations based on input
- There are two primary types of recommenders:
  1. User-based
  2. Content-based



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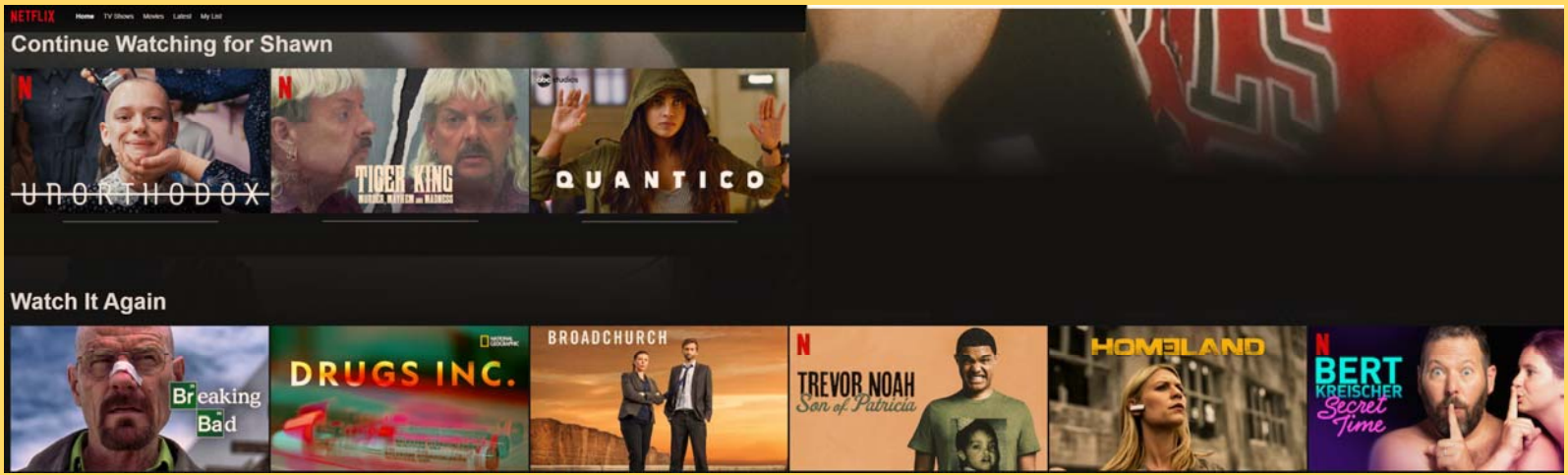
# Types of recommender systems

## User-based recommenders (collaborative filtering)

- Makes recommendations based on your previous choices or the choices of users like you
- Example: Netflix

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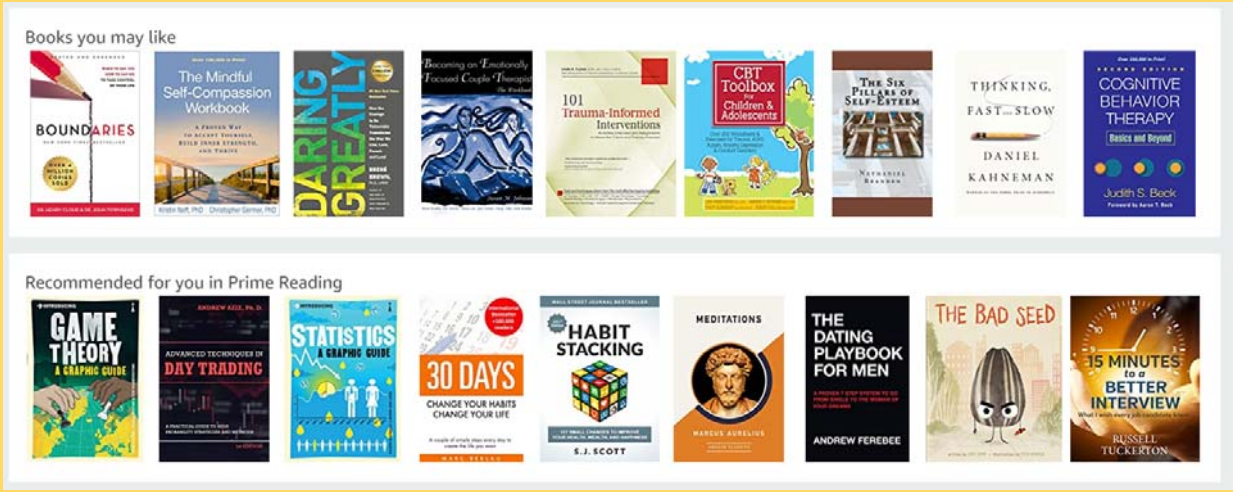
# Types of recommender systems

## Content-based recommenders

- Makes recommendations based comparing content items to one another, and to your previous choice
- Example: Amazon

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# My recommender system

**PROBLEM STATEMENT**

- Can I build a content-based recommender system to promote Canadian literature, one that will take input from readers of their favourite book, and return Canadian books that are similar?

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## Rationale

- A recommender system such as this (on a website, in a bookstore kiosk, etc) could be beneficial to both the Canadian publishing industry and book lovers everywhere

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# My approach

- Gather data on as many books as I can (6,500+ Canadian, 10,000+ international)
- Gather author, title, description info
- Train a model to compare the descriptions of books to understand which ones are like one another, so it can return Canadian recommendations that are similar to a book that user suggests

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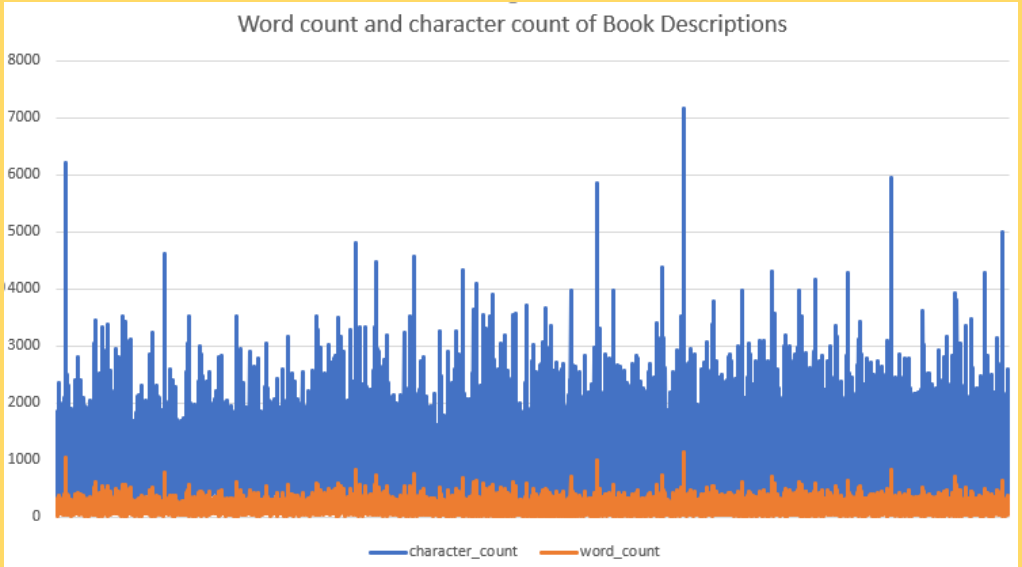
# Limitations/Next steps

- The model is limited to books it knows about & the quality of descriptions
- The model can't assess book quality
- The next phase of the project will be to allow a user to enter anything they want (a book title, or a description of books they like), which the model will compare to books it knows
- Another phase 2 item is "I'm feeling Canuck-y" (like Google's "I'm feeling lucky"), which will return a random Canadian book recommendation



# How did it do?

- The model is not perfect, but it does consistently provide interesting recommendations
- When it does well, it recommends books with similar theme and contents
- When it falls down, it makes suggestions that are too literal to be actually meaningful (I will provide some examples)

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# Example 1

A Place for Us by Fatima Farheen Mirza

RECOMMENDATIONS

- The Shape of Family by Shilpi Somaya Gowda
- Belief by Mayank Bhatt
- The Twin Switch by Barbara Dunlop

VERDICT: GOOD

- Gowda's book is about Indian family relationships
- Bhatt's book is about a Muslim family
- Dunlop's book, like Mirza's, concerns a wedding

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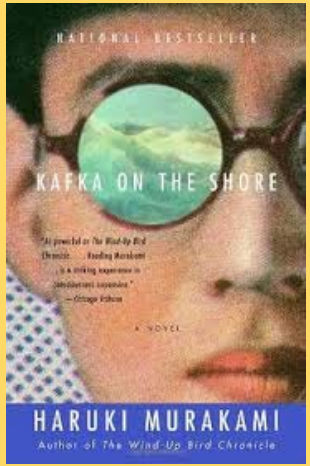
# Example 2

Kafka on the Shore by Haruki Murakami




RECOMMENDATIONS

- The Metamorphosis and Other Stories by Franz Kafka
- A Hunger Artist & Other Stories by Franz Kafka
- Kafka's Hat by Patrice Martin

VERDICT: POOR

- Franz Kafka is not Canadian
- The model seized on the word “Kafka” instead of comparing with the described content of Murakami’s novel

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# Let me Demonstrate to you...

## DEMO

*Let me Respond to you...*

# QUESTIONS

# Let me thank you...

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