



# Building Defensibility in Products in the Era of Generative AI

**Brandon Zhao**

**Partner**

**Two Small Fish Ventures**



# SAAS NORTH

@ SAAS NORTH

# Building Product Defensibility in the Era of Generative AI

*Brandon Zhao*

*Partner, Two Small Fish Ventures*



# Hi, we're Two Small Fish Ventures

We invest in early-stage products, platforms, and protocols that transform user behaviour and empower businesses and individual to unlock new values.

Since 2015, we've backed over 40 early-stage technology companies. We're serial entrepreneurs with multiple exits under our belt.

# Investment and Advisory Portfolio

hubba

CareGuide

hero<sup>x</sup>

#paid™

SKIP<sup>the</sup>  
DISHES

BenchSci

Bitstrips



chefhero

Zoom.ai

ENGINEERING.COM




HORIZON  
BLOCKCHAIN GAMES

wondeur

Helpful

drop

Oncoustics

Ada Support

Vouchr

flytographer

tealbook®

ASK THE DOCTOR?



Paycase

Jiffy



two small fish ventures



## About me

Founding data scientist @Wattpad

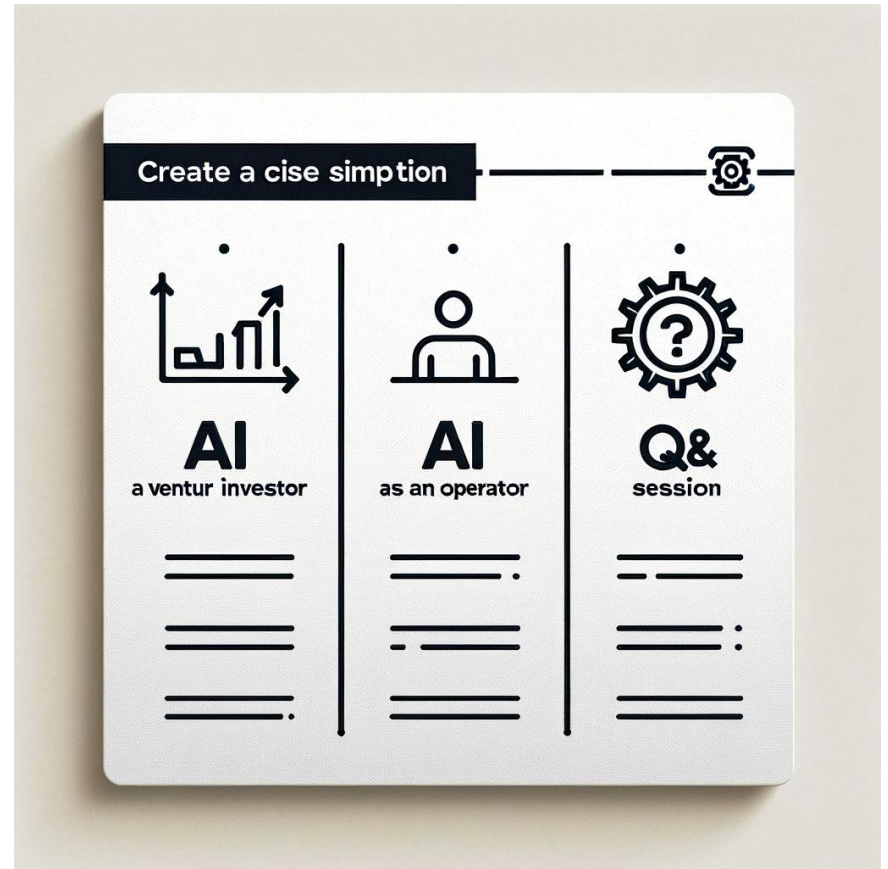
- Spent last decade building Data and Machine Learning systems and strategies

Investor @Two Small Fish Ventures

- Early stage AI investments: Ideogram, Benchsci, Ada

# Outline of talk

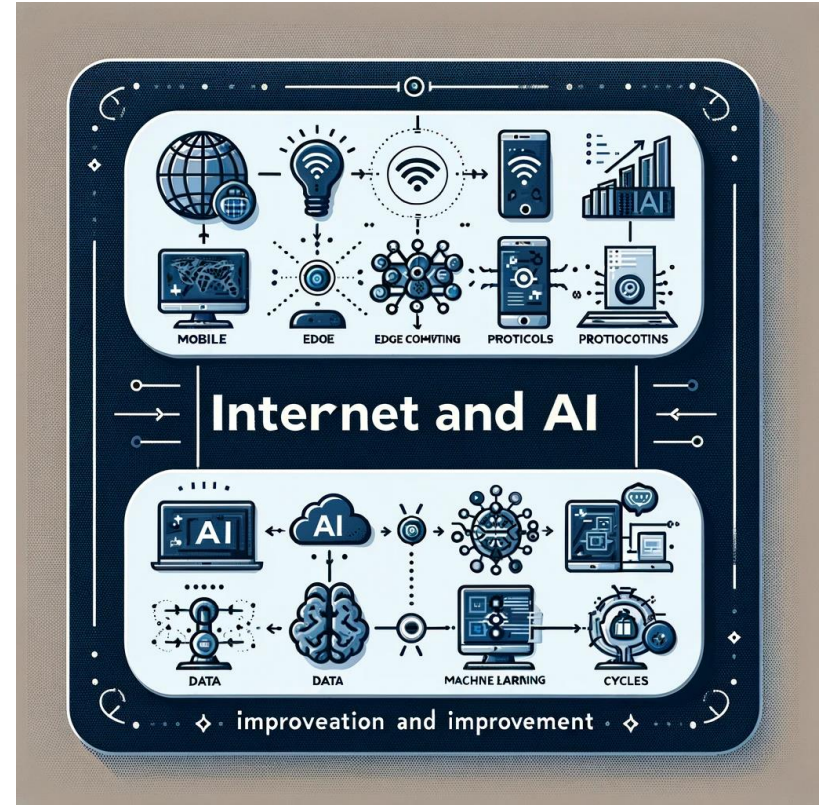
1. **First half** of the talk
  - AI as a venture investor
1. **Second half** of the talk
  - AI as an operator
1. **Q&A** at the end



From an **investor** perspective...

# AI at a very very high level

- Internet connects information through **mobile, edge, and protocols**
- AI is a **foundation layer** that extracts insights through **data and machine learning**, and will improve in **cycles**



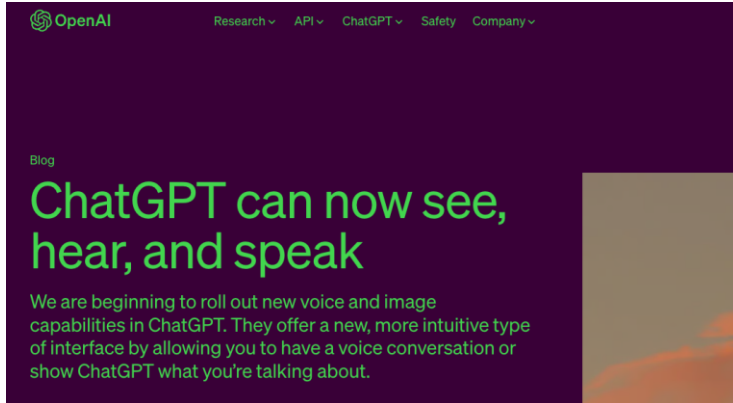


3 **technology** differences in the **current cycle**...

# 1. Multi-Modality

Models can learn from data in **more domains** (i.e. multi-modal), powered by better **transfer of learning**

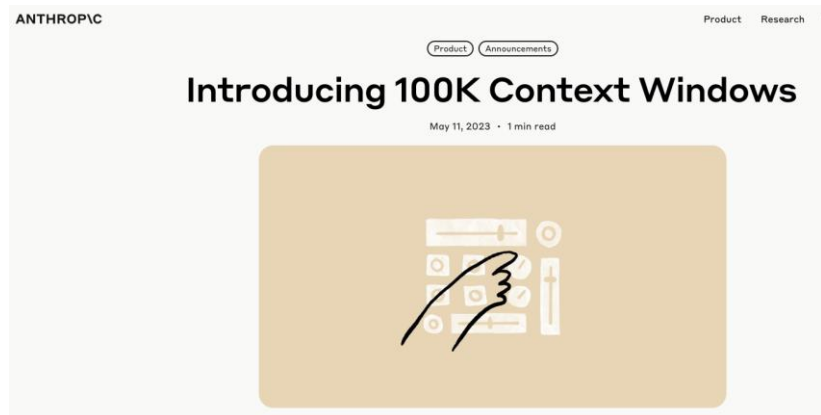
- For example, Chatgpt can receive inputs in **text, images, and voice**
- The **Imagen project** learned to generate images, videos, and 3d rendering
- Early signs that **robotics** could be a new domain to transfer learning



## 2. Long Context Window

Large models learn efficiently from **longer form data**, powered by **transformers**

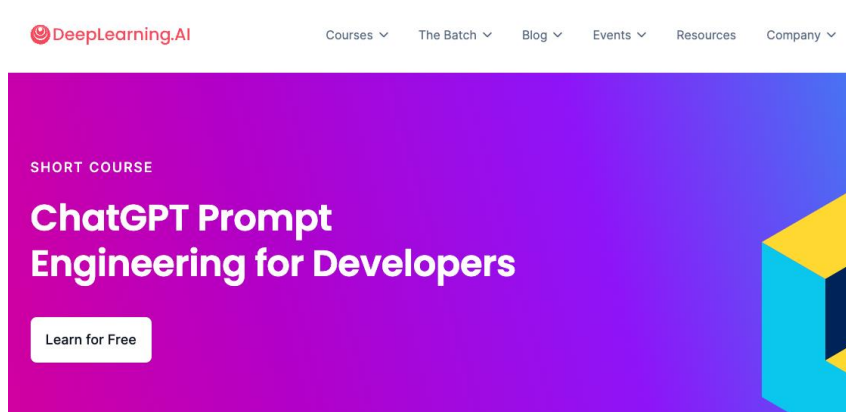
- Historically Wattpad has seen the problem first-hand since **stories are long form**
- **Anthropic** up to **100k context length**, OpenAI announce 128k context length (~300 pages)
- Models can distinguish more **nuanced ideas**, but accuracy level still needs to be addressed



# 3. New Adaptive Interfaces

There's a new class of **adaptive user interfaces** like prompting and **prompt engineering**.

- This is partially enabled by the models being able to learn quickly from **much fewer data** points. Original GPT-3 paper is titled “Language models are **few-shot learners**”
- Demo from custom GPT shows that “**agents**” can be built with small amounts of data; though there's less hallucination, but it's still an unsolved problem



# Large Model as Operating System



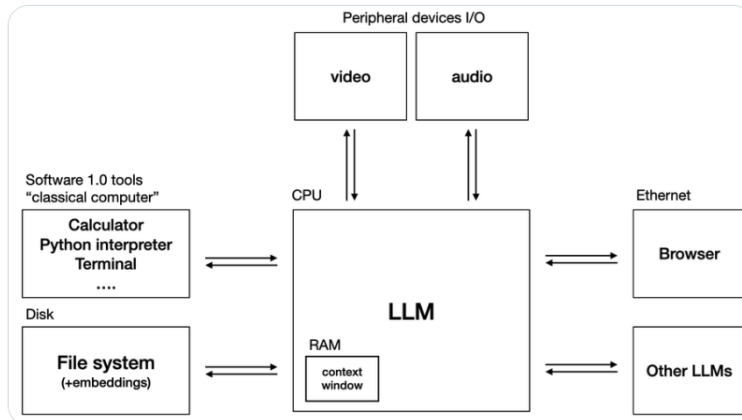
**Andrej Karpathy** ✓  
@karpathy

...

LLM OS. Bear with me I'm still cooking.

Specs:

- LLM: OpenAI GPT-4 Turbo 256 core (batch size) processor @ 20Hz (tok/s)
- RAM: 128Ktok
- Filesystem: Ada002



📝 Last edited 7:48 PM · Nov 10, 2023 · 2M Views

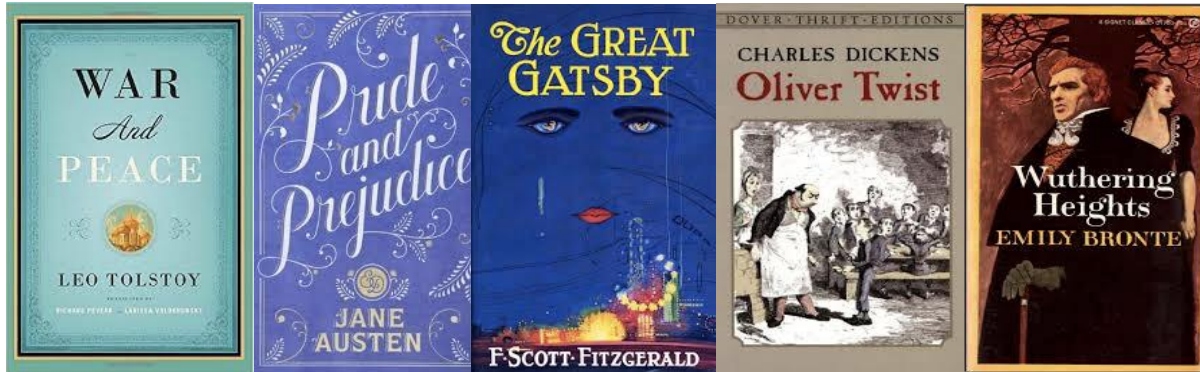
Now, a framework for **products**...

Product framework we use at **the fund** is call **ASSET**, with the following key concept:

1. Seed the **supply**
2. Scale **demand** engagement
3. **Proprietary** insights

# Wattpad as an ASSET example

1. Seed Supply - import **open domain books** so there's initial batch of content to consume





# Wattpad as an ASSET example

## 2. Scale Demand Engagement - **freemium** to reduce friction, cross platform



# Wattpad as an ASSET example

## 3. Proprietary Insights - **product features** like “casting”, inline comments to collect **proprietary Studios insights**

### Top Ten Celebrities For Fan Fiction!

7/19/2010 6:45 PM ET | Filed under: **Zac Efron** • **Megan Fox** • **Chace Crawford** • **Taylor Swift** • **Ian Somerhalder** • **Dakota Fanning** • **Selena Gomez** • **Robert Pattinson** • **Taylor Lautner**

 Like 116       1 Reaction

The top ten celebrities used in fan fiction have been **revealed** and there are the usual suspects and some that are pretty surprising.

Taking the top spot is **Taylor Lautner**, but **Robert Pattinson** representing Team Edward is nowhere to be found! The rest of the list follows:

2. **Selena Gomez**
3. **Chace Crawford**
4. **Megan Fox**
5. **Ian Somerhalder**
6. **Dakota Fanning**
7. **Ashley Greene**
8. **Logan Lerman**
9. **Taylor Swift**
10. **Zac Efron**

How does **technology** shift the **product**?

# 1. Multi-Modal ==> Supply Creation

With models generating content in multiple domains, the **supply** side of a product will also become **multi-domain**

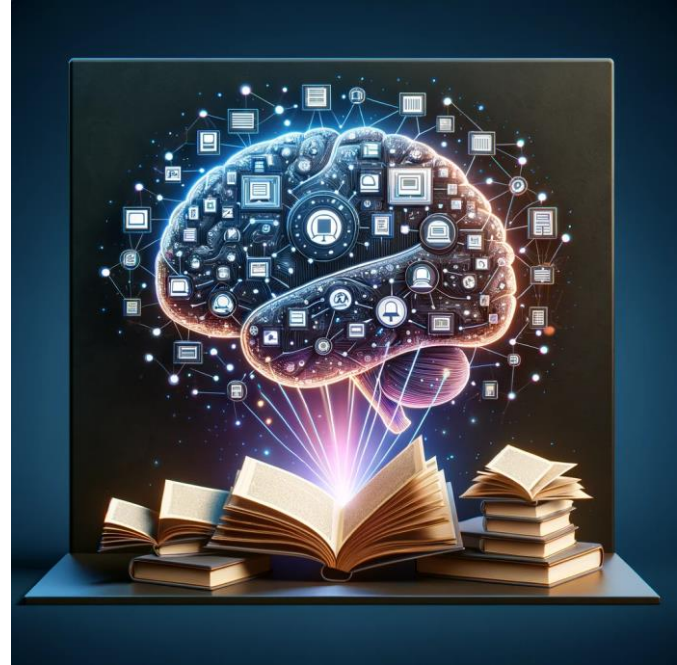
- For example, internet native stories won't just be text; it will also be **images, videos, and sounds**
- Companies like Openai and **stability.ai** are providing the **infrastructure** to generate content in multiple modalities



## 2. Long Context Window ==> Demand Engagement

With longer context window, content will be **hyper personalized** as large models can incorporate more historical patterns.

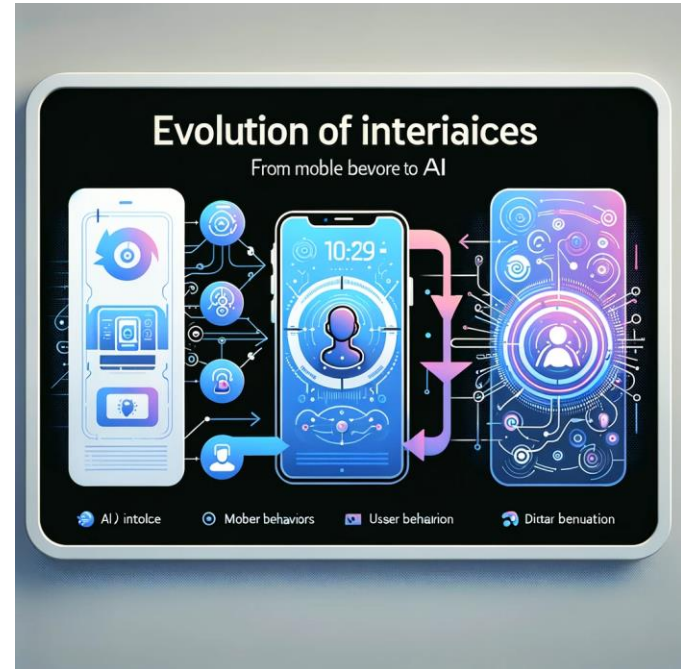
- For example, **Wattpad stories** will be hyper personalized as large models can understand the **entirety of the content**
- Large models also recognizes user behaviour through **longer time horizons**, this leads to more relevant and meaningful **connections between users**.



### 3. New Adaptive Interface ==> Proprietary Data Collection

New **AI interfaces** (like prompting) will bring new ways of collecting **proprietary customer feedback**

- Similar to how **Mobile** shifted user interfaces, AI will do the same
- Mobile interface is built around **locality**, AI interface is built around **expression of ideas**
- Chatgpt as an interface is collecting proprietary user feedback, in contrast with traditional chatbot that are **less adaptive**





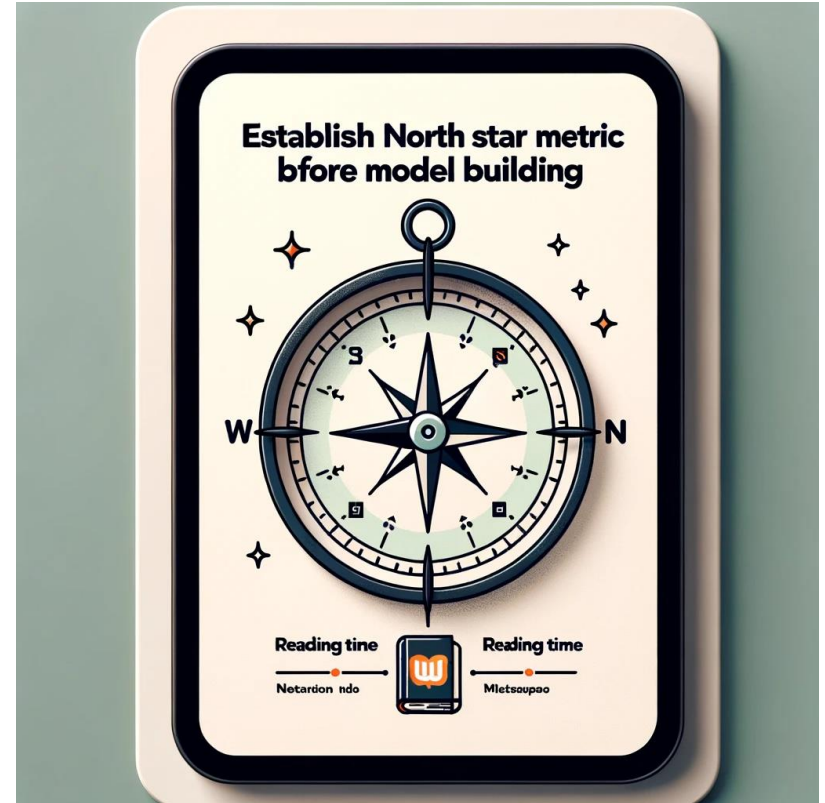
From an **Operator** perspective...



# “Table Stakes” Investments

## 1. Aligned Metrics

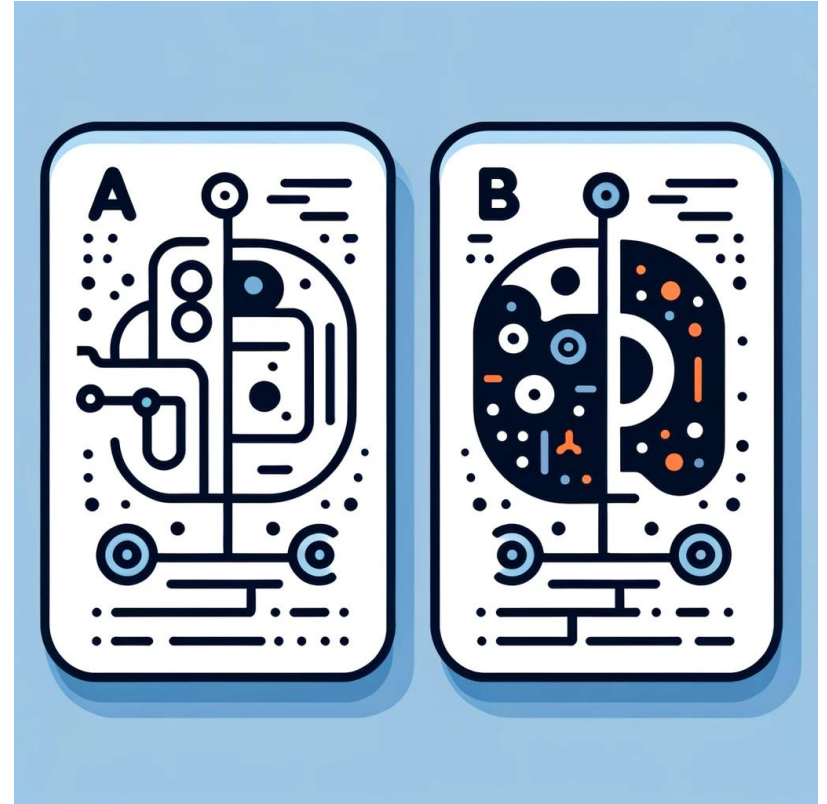
- Establish **north star metric** before building models, so it's clear what the model is optimizing for
- For Wattpad, this was **reading time**, because it correlates with long term retention



# “Table Stakes” Investments

## 2. Product feedback loops

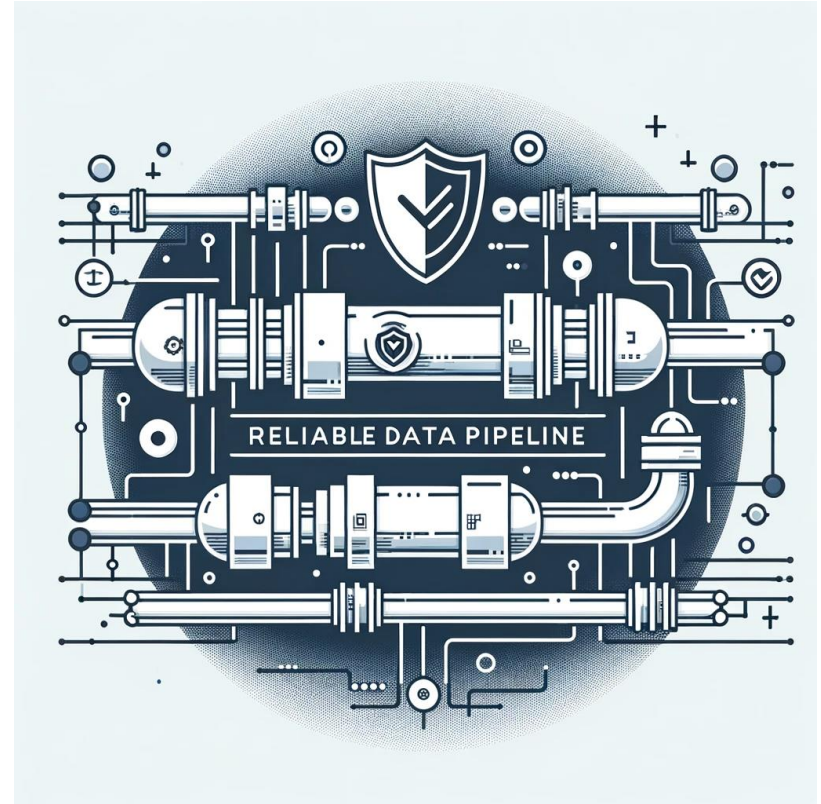
- need to know when a change is made, whether there is impact
- Most common way to do this is **AB testing**; establish initial baseline without ML, and then incrementally optimized loop with ML



# “Table Stakes” Investments

## 3. Reliable data pipeline

- **Garbage in, garbage out.** Failed pipeline often get caught on dashboard
- Lots of tooling in the Modern Data Stack for this. Wattpad had **data catalogs**, **data testing** frameworks like dbt



# Data Science Investments

## 1. Scale domain expertise

- Hire data scientist with science+engineering skills to improve key metrics

- Rapidly iterate on interfaces of model to leverage feedback from diverse set of domain experts.

Wattpad built **data apps** to rapidly gather feedback on model predictions (see Streamlit)



# Data Science Investments

## 2. Product features as data labelling

- for ML model to improve, product has to continuously **gather feedback from users**
- invest in product features that motivates users to help label data; for Wattpad, getting metadata from writers, and inline comments from readers



# Data Science Investments

## 3. Rapid iterations

- LLMs will **accelerate exploratory development**. For example, building a classifier with prompt engineering could get early wins
- To balance on **model costs**, optimized with open source alternatives like Llama, or older generation of closed sourced models

## Introducing Llama 2

The next generation of our  
open source large language model

Llama 2 is available for free for research and commercial use.

[Download the Model](#)

# Thank You.

Brandon Zhao  
brandon@twosmallfish.vc

