



Ben Graham Centre for Value Investing

The Future of Fundamental Analysis: Can Humans and Machines Co-Exist?

Name: Andi Kerenxhi, CFA E-mail: <u>akerenxhi@ubineer.com</u> Website: <u>www.Ubineer.com</u> Social: <u>www.linkedin.com/company/ubineer/</u>

CONFIDENTIA

U Two Epochs Fundamentalists (Knowledge) Capture large alpha from earning surprises & time on market 1920s 2000s Quants (Compute) Analyze historical prices & factors to find mispricings. Systematic & backtested small alpha + leverage = CONFIDENTIAL large alpha

WNew Technology

Generative Pre-trained Transformer (GPT)

Large Language Models (LLM)

Who are the winners?

CONFIDENTIAL

U Open Mind & Humble



A real honor to have dinner with @natfriedman and Charlie Munger

...



CONFIDENTIAL

Why me?



Andi Kerenxhi, CFA Building AI for Investors seeking to capture alpha | Ubineer President |



- 8+ years experience as software equity analyst
- HBSc from University of Toronto-Quantitative Analysis Mathematical Finance, Management and Economics



What Assumptions are priced in?

- Humans will encounter many LLMs or multimodal models per day
- The models will do semi-complex tasks
- Agency/Morality will still reside with Humans
- We are <u>really early</u> and not close to a local maxima

Oriced in Assumptions # 2

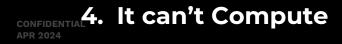
- More products are required:
 Chat is <u>not</u> the only interface
- Connectivity is in place so if a product works it will capture market share quicker than previous generations
- We will still chew gum the same way

U Questions Asked of LLMs Q4 2022

1. Human Creativity can't be replaced

2. Limited Context

3. It is not Current



M All Solved in 6 Quarters

1. Human Creativity can't be replaced



3. It is not Current



CONFIDENTIAL APR 2024





Our main learnings

Large Language Models (LLM)



Correct Compute & Information

CONFIDENTIA

I A tough question to ask?

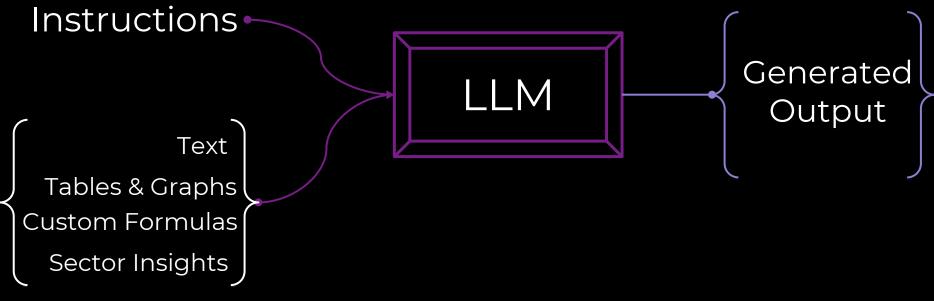
What should



content strategy be?

CONFIDENTIAL

What an LLM needs?



CONFIDENTIA APR 2024

U Text Example

- 0	🖞 NETFLIX INC (NFLX) - Co	ompany × +									
	> C 😫 ubinee	r.com/user/universe/financialEr	ntities/params;cik=1	1065280				ବ୍	ጵ) 🧔 🔹 🖸	🔒 Incognito	Finish update
U	Ubineer	Q Search layers									•
	Dashboard Universe Layers ~ Clusters Projections Alerts ~ Insights	Universe / NETFUX INC (INF NETFLIX INC (INFL3) DATA POINTS EXTRACTED: DATA AVAILABLE Total data points: 39,429 +584 since last filing	K) 🔞		Data points in Numbers: 36,622 +550 since last filing	Data points in Text: 2,807 +34 since last filing	Create O View	e.			
	Settings	Quarterly & Annual R	eports				~				
С С	Sign Out	10 K & 10 K/A REPORTING DATE 12/31/2013 12/31/2019 12/31/2018 12/31/2015 12/31/2009	FILING DATE 01/26/2024 01/29/2020 01/29/2019 01/28/2016 02/22/2010	https://v https://v	www.sec.gov/Archives/edgar/data/1065280/0001 www.sec.gov/Archives/edgar/data/1065280/0001 www.sec.gov/Archives/edgar/data/1065280/0001 www.sec.gov/Archives/edgar/data/1065280/0001	D652802000040/form10kq419.htm 06528019000043/form10k_q418.htm 06528016000047/hftx201510k.htm	57ATUS (00055500) (00055500) (00055500) (00055500)				
		Show All > 10 Q & 10 Q/A REPORTING DATE	FILING DATE	LINK			STATUS				
	Collapse Menu	REPORTING DATE	FILING DATE	LINK			STATUS				

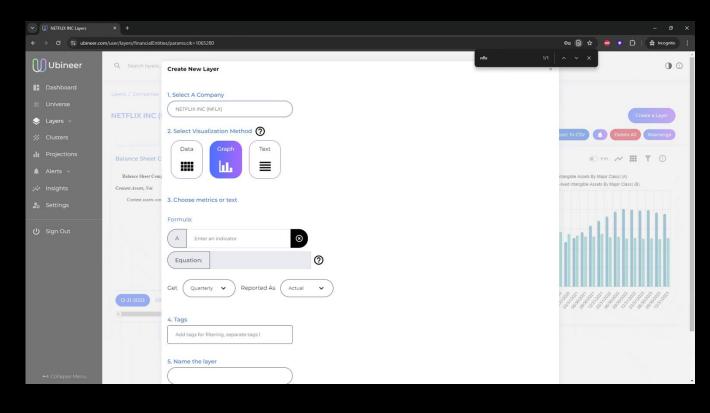
Automated Data Capture

U Tables and Graphs

 	
Ib Dahboard Layers / Companies / NETFLIX INC (NFLX) Balance Sheet Components IL layers - Clusters NETFLIX INC (NFLX) Companies IL projections Balance Sheet Components I I A Netra - Statuse Sheet Components I I Settings Content autor companies Content autor companies I I Settings Sign Out Largensing Largensing Largensing Largensing Largensing Largensing Largensing Largensing I <th>Finish update</th>	Finish update
Universe Support / Companyees / NETFLIXINC (NETX) I layers / Companyees / NETFLIXINC (NETX) Image: Company in the second of the following: I Projections Balance Sheet Components. Image: Content Aller Not A Alerts / Content Aller Not Content Aller Not Statings Settings Content Aller Not Image: Content Aller Not Statings Settings Image: Content Aller Not Image: Content Aller Not Statings Settings Image: Content Aller Not Image: Content Aller Not Statings Settings Image: Content Aller Not Image: Content Aller Not Statings Settings Image: Content Aller Not Image: Content Aller Not Statings Sign Out Image: Content Aller Not Image: Content Aller Not Image: Content Aller Not All of Deember 31, 2023, approximately S5,777 millings, S2,600 milling, and 51,424 milling of the S12,723 milling and s1,442 milling of the S12,723 milling and s1,442	•
 Universe Layers ~ Clusters Alerts ~ Alerts ~ Settings Settings Settings Settings Alerts + Settings Custers = Alerts + Settings Custers = Settings Alerts + Settings Custers + Settings Custers + Settings Alerts + Settings Custers + Settings Custers + Settings Custers + Settings + Custers + Settings +	
 Layers Clusters Balance Sheet Components Alerts Alerts Content Autor, Nel Content Autor, Nel Content autor consisted of the following: Settings Settings Sign Out Sign Out 	
Data Cestere Components Projections Alerts ~ Alerts ~ Centert Assets consisted of the following: Content assets consisted of the following: Settings Settings Sign Out Sign Out Sign Out As of December 31, 2023, approximately 57,77 million, \$2,560 million, and \$1,421 million of the \$12,722 million standamined cont of the licensed content is expected to be monitard in each of the east three years. As of December 31, 2023, approximately 53,767 million, \$2,560 million, and \$1,421 million of the \$12,722 million standamined cont of the licensed content is expected to be monitard in each of the east three years. As of December 31, 2023, approximately 53,767 million, \$2,560 million, and \$1,421 million of the \$12,723 million standamined cont of the licensed content is expected to be monitard in each of the east three years. As of December 31, 2023, approximately 53,767 million, \$2,560 million, and \$1,421 million of the \$12,723 million standamined cont of the licensed content is expected to be monitard in each of the east three years. As of December 31, 2023, approximately 53,766 million, \$2,560 million, \$2	Layer
Alerts → Centert Avert, Ner Content avert, Ner Content avert, Ner Settings Content avert, Ner Settings Alerts → Sign Out Image: Sign Out Image: Sign	٢
 Alerts ✓ Content Ansets, Nat Alerts ✓ Insights Settings Settings Sign Out Sign Out Alerts A of December 31, 2023, approximately 55,777 million, 52,660 million, and 51,842 million of the 512,723 million usanontized cost of the licensed content is expected to be amortized in each of the sett three years. As of December 31, 2023, approximately 55,777 million, 52,660 million, and 51,842 million of the 512,723 million usanontized cost of the licensed content is expected to be amortized in each of the sett three years. As of December 31, 2023, approximately 55,776 million, and 51,842 million of the 512,723 million usanontized cost of the licensed content is expected to be amortized in each of the sett three years. As of December 31, 2023, approximately 55,776 million, s2,860 million, s2,820 million, s2,820 million usanontized cost of the licensed content is expected to be amortized in each of the sett three years. As of December 31, 2023, approximately 55,776 million, 52,860 million, s2,820 million, s	
Insights Settings Setting Seties Setting Setting Setting Setting Setting Setting Sett	
Settings Aut December 31, 2023, approximately 55,777 million, 52,660 million, and 51,442 million of the 512,722 million stammanized cost of the licensed content is expected to be smortized in each of the next three years. As of December 31, 2023, approximately 55,766 million, 52,620 mill	
U Sign Out Identify the determent, net 512,722,01 512,732,549 Produced content, net Produced content, net 9,443,150 9,110,518 Released, less amortization 9,443,150 9,110,518 10,255,940 In grochecion 844,827 637,766 In development and pre-production 844,827 637,766 Coatent assets, net 531,659,006 532,736,713	
Sign Out Sign Out Ltenned centers, set \$12,722,701 \$12,732,735,749 Produced conterst, set Produced conterst, set 9,843,150 9,110,518 Released, less anoritantion \$2,247,578 10,255,940 In produceion \$2,247,578 10,255,940 In development and pre-production \$44,627 637,706 Contert assett, net \$31,658,056 \$32,716,713	
Produced content, pet Produced content, pet Released, less anonization 9,483,150 In producediconican 84,427 In development and pre-production 84,427 18,933,33 20,004,164 Coatent assets, pet 331,655,056 As of December 31, 2023, approximately 55,777 million, \$2,660 million, and \$1,842 million of the \$12,723 million usanonizad cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately 53,766 million, \$2,622 million	
Refeased, Jess anortization 9,481,150 9,110,518 In production 8,247,578 10,255,940 In development and pre-production 844,627 637,706 Im development and pre-production of the \$12,723 million standortization of the biternet content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 mill	
In production 8,447,578 10,255,940 In development and pre-production 844,627 637,706 18,955,355 20,004,164 Content assets, net 531,655,056 532,736,713	
In development and pre-production 18,933,355 20,004,164 Content assets, net 531,658,056 532,736,713 As of December 31, 2023, approximately 55,777 million, 52,860 million, and 51,842 million of the 512,723 million usamonized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately 53,766 million, 52,622 million of the S12,723 million of the S12,723 million standor is expected to be amortized in each of the next three years. As of December 31, 2023, approximately 53,766 million, 52,622 million of the S12,723 million standor is expected to be amortized in each of the next three years. As of December 31, 2023, approximately 53,766 million, 52,622 million of the S12,723 million standor is expected to be amortized in each of the next three years.	
18,093,393 20,004,164 Content assets, net 531,658,056 As of December 31, 2023, approximately 55,777 million, 52,660 million, and 51,842 million of the 512,723 million usamonized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately 53,766 million, 52,652 million	
Content assets, net 531,658,056 532,736,713 As of December 31, 2023, approximately \$5,777 million, \$2,860 million, and \$1,842 million of the \$12,723 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million of the \$12,723 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million of the \$12,723 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million of the \$12,723 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$3,766 million, \$2,822 million unamortized cost of the licensed content is expected to be amortized in each of the next three years	
As of December 31, 2023, approximately \$5,777 million, \$2,660 million, and \$1,842 million of the \$12,723 million unamovized cost of the licensed content is expected to be amortized in each of the next three years. As of December 31, 2023, approximately \$5,766 million, \$2,622 million unamovized cost of the licensed content is expected to be amortized in each of the next three years.	
As of December 31, 2023, approximately 55,777 million, 52,660 million, and 51,842 million of the 512,723 million unamorized cost of the licensed content is expected to be amorized in each of the next three years. As of December 31, 2023, approximately 53,766 million, 52,622 million of the start start and the next three years.	
and \$1,793 million of the \$9,843 million unamortized cost of the produced content that has been released is expected to be amortized in each of the next three years.	lion,
	-
12-31-2023 09-30-2023 06-30-2023 03-31-2023 12-31-2022 09-30-2022 06-30-2022 03-31-2022 12-31-2021 09-30-2021 06-30-2021 03-31-2021 12-31-2020 09-30-2020 06-30-202	00
← Collapse Menu	

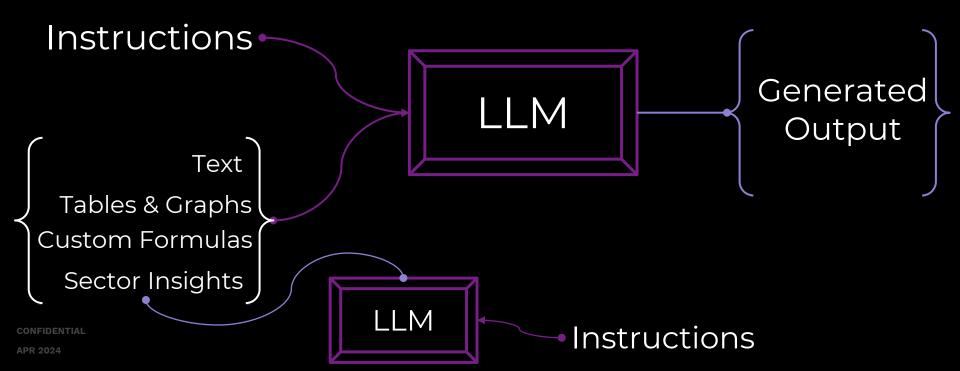
Automated Data Input



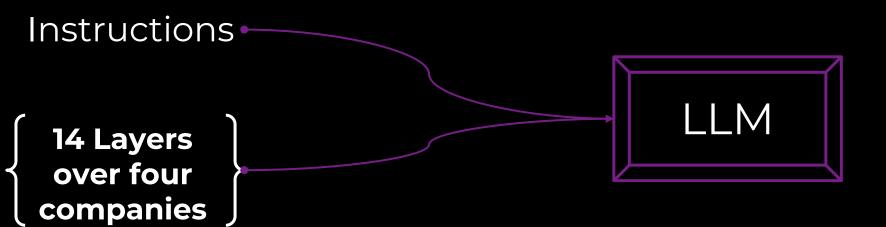


Automated Data Input

Oet smaller LLM to Create Layers



U Layers generated by LLM?



CONFIDENTIAL

U LLM Generated output

It is optimal for Netflix to focus on licensing valuable content from their competitors, while continuing to produce their most popular shows. This strategy allows Netflix to not only acquire exclusive content from successful producers, but also to maintain control over a portion of their library to increase brand loyalty and revenue from subscribers.

By acquiring valuable content from competitors, Netflix can take advantage of their financial difficulties and provide a solution to their short-term debt problems. This will also allow Netflix to diversify their content offerings and attract more subscribers.

Additionally, partnering with established content creators allows Netflix to utilize the resources and experience of those creators to produce and market the content effectively.

Licensing exclusive content from competitors also allows Netflix to build a strong competitive position, keeping them ahead of other streaming platforms in terms of content offerings.

Finally, licensing content from competitors will also allow Netflix to maintain a balance of their content that can be used to sell to other streaming platforms, which could also make them an attractive asset to be acquired by a bigger company.

CONFIDENTIA

In summary, by licensing valuable content from competitors while maintaining their inhouse production capabilities, Netflix can maximize their revenue from subscribers, diversify their content offerings, and maintain competitive position.</s>

U Verified by management

Another example is the licensed title *Suits*. This legal drama originally premiered on USA Network in 2011 and ran until 2019. Despite having been available on other streaming services, the debut of seasons one to eight on Netflix in July broke viewing records. According to Nielsen, *Suits* was the

⁴ Views are based on the first 91 days of release. For titles released less than 91 days (denoted with an asterisk), data is from launch date through October 15, 2023. We publish weekly our top titles based on engagement at <u>Netflix Top 10</u>.

NETFLIX

3

most-watched title across film, original Thoma acquired TV on streaming in the US for 12 weeks starting in late June (614M view) cours - a new Nielsen record). Over that same time frame, *Suits* generated 1B view hom on Netflix globally⁵. Licensing has always been an important part of our programming strategy. As the competitive environment evolves, we may have increased opportunities to license more hit titles to complement our original programming. We believe this will deliver additional value for our members (i.e., engagement), as well as for rights holders who benefit from the increased awareness and revenue that Netflix delivers, in addition to the new life that success on Netflix can drive (e.g., *Friends, The Office*, a new series from the *Suits* universe). strategy. As the competitive environment evolves, we may have increased opportunities to license more hit titles to complement our original programming. We believe this will deliver additional value for our members (i.e., engagement), as well as for rights holders who benefit from the increased awareness and revenue that Netflix delivers, in addition to the new life that success on Netflix can drive (e.g, *Friends, The Office*, a new series from the *Suits* universe).

CONFIDENTIAL

W Is this a new data set or an edge?



CONFIDENTIAL

Our Mental Model with LLMs

- If a task is iterative and simple, LLMs will win.
 Capture/organize data from the web
 Parts of coding
- LLMs will make us more <u>knowledgeable</u>
 Above example
 Specific Agents

WA low probability future?

Fundamentalist understand the underlying businesses better than the Quants.

But ... Don't adapt quickly to technology.

CONFIDENTIAL

Machine augmented decisions

- 1. Fundamentalist thinks of a question
- 2. <u>Research done by LLM "analyst"</u>

3. Value Accretive or Destructive is decided by the <u>Fundamentalist</u>

U Conclusion

- 1. Fundamentalists: will feel like they are working with many <u>really</u> smart friends
- 2. Quant world and Fundamental world should converge
- 3. Winner: whoever generates the most valuable tokens



Andi Kerenxhi, CFA

Building AI for Investors seeking to capture alpha | Ubineer President |



Ubineer Thanks!

<u>akerenxhi@ubineer.com</u> <u>www.ubineer.com</u> @ubineer

CONFIDENTIAL