



SIF INVESTOR PRESENTATION

26th January 2022

Investment Thesis

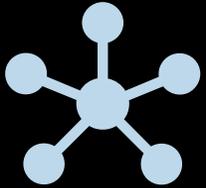
Peel the onion on the technological side of generative AI, and you'll find NVIDIA supporting competitors like AWS, Azure across the world. As the commercial applications of this industry are developing, and chip competitors struggle with deep learning GPUs, NVIDIA is primed to capture this market.

Recommendation: **Buy**

Upside: 15.6%

Target Price: \$230

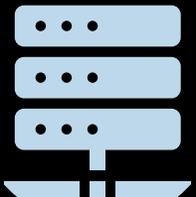
Generative AI: Industry Overview



ChatGPT, Sparrow, Stability are all LLMs – Large learning models. They've differentiated themselves by being trained on large volumes of information. These have prohibitively expensive costs for cloud services and datacenters.



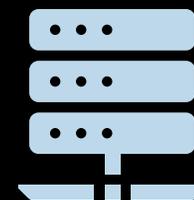
To be more than a novelty, these models will need to be continuously trained on real-time data which needs an incredible amount of compute power.



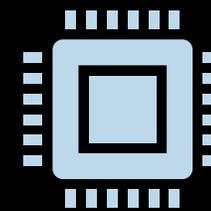
Most of training \$ are spent at the Big 3: AWS, Google Cloud, and Azure. These providers collectively spend more than \$100 billion per year in capex to ensure they have the most comprehensive, reliable, and cost-competitive platforms.

NVIDIA: Overview

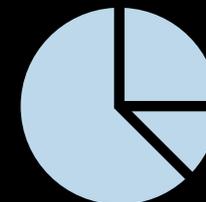
Nvidia reported \$10.8 billion of data center GPU revenue in the fiscal year 2023, including a meaningful portion for generative AI use cases.



They've built moats around their data center business via decades of investment in GPU architecture, a robust software ecosystem, and deep academic usage.



#1 in AI training and inference, Used by all hyperscale & major cloud computing providers and 35,000 organizations. Powers 361/ top 500 supercomputers



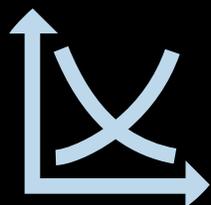
Catalysts



Successors to ChatGPT are under development and we are yet to realize their commercial potential. GPT-3.5, Codex, and DALL-E, GPT-4 successor models are coming up in the next few years.



Microsoft Azure's OpenAI service is likely to be a significant catalyst for data center demand. MSFT likely to invest \$10 billion in OpenAI with a weighted profit sharing.



Pent-up demand: Pricing for cloud providers has been supported by scarce GPU supplies. The list price for A100s has actually increased since launch, which is highly unusual for compute hardware.

Valuation

	Current	Projected
Enterprise Value	\$496 B	\$571 B
Stock Price	\$198.95	\$230.23

P/E
84.23

Price/Book
18.65

Dividend Yield
0.08%

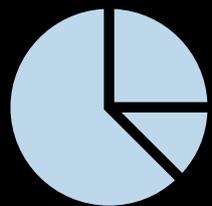
EV/Revenue
24.14

EV/EBITDA
44.29

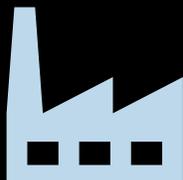
Risks



Macroeconomic: If we see the macroeconomic environment worsen, this will lower the demand for gaming. Nvidia's exposure to the PC gaming segment will mean it'll be affected by the weakening macroeconomic environment.



Competition: Google TPUs, AMD Instinct GPUs, AWS Inferentia and Trainium chips, many bespoke AI training chips from Chinese manufacturers



Inventory: Long lead time needed for manufacturing (>12mo) means higher chances of mismatch between supply and demand due to evolving applications and scale of generative AI. Also, a high dependency on supply chain components.

Questions?





Appendix

DCF

All in \$ millions	12 Months Ended										
	Jan. 26, 2020	Jan. 31, 2021	Jan. 30, 2022	Jan. 30, 2023*	Jan. 30, 2024	Jan. 30, 2025	Jan. 30, 2026	Jan. 30, 2027			
Revenue	10918	16675	26914	20552	29884	43719	64319	95120	Historical revenue CAGR	35.09%	
Gaming			12380	7236	9769	13188	17803	24034	Gaming growth rate	35.00%	
Data centre			10766	11389	17653	27362	42411	65737	Data centre growth rate	55.00%	
Professional visualization			2153	1318	1780	2405	3249	4389	Visualization growth rate	35.09%	
Automotive			538	609	682	764	856	958	Automotive growth rate	12.00%	
Operating expenses											
Research and development	2829	3924	5268	6481	7974	9810	12069	14848	R&D expense CAGR	23%	
Sales, general and administrative	1093	1940	2166	2166	2166	2166	2166	2166			
Total operating expenses	3922	5864	7434	8647	10140	11976	14235	17014			
Income from operations (EBIT)	2846	4532	10041	11905	19745	31743	50085	78106			
Income tax expense (less)	-174	-77	-189	-301	-499	-802	-1265	-1973	Tax rate	2.53%	
Unlevered net income	2672	4455	9852	11604	19246	30941	48819	76133			
Depreciation and amortization	381	1098	1174		1708	2486	3618	5264	7660	Depreciation and amortization CAGR	46%
Capital expenditure (less)	0	(17)	(83)	-129	-199	-309	-479	-743	CapEx prediction	55.00%	
Increase in NWC (less)		-1280	-2867	-4291	-6422	-9611	-14383	-21526	NWC delta CAGR	49.7%	
Unlevered FCF	3053	4256	8076	8893	15111	24639	39221	61524	807399	Historical FCF CAGR	38.30%
										Forecasted FCF CAGR	90.54%

Valuation Multiples

P/E ratio	84.23	Equity multiples
Price/Book ratio	18.65	
Dividend yield	0.08%	
Mkt cap	487130	
Debt	10946	
Cash	1990	
Enterprise Value	496086	
EV/Revenue	24.13	EV Multiples
EV/EBITDA	44.29	

Catalysts



Sam Altman 

@sama



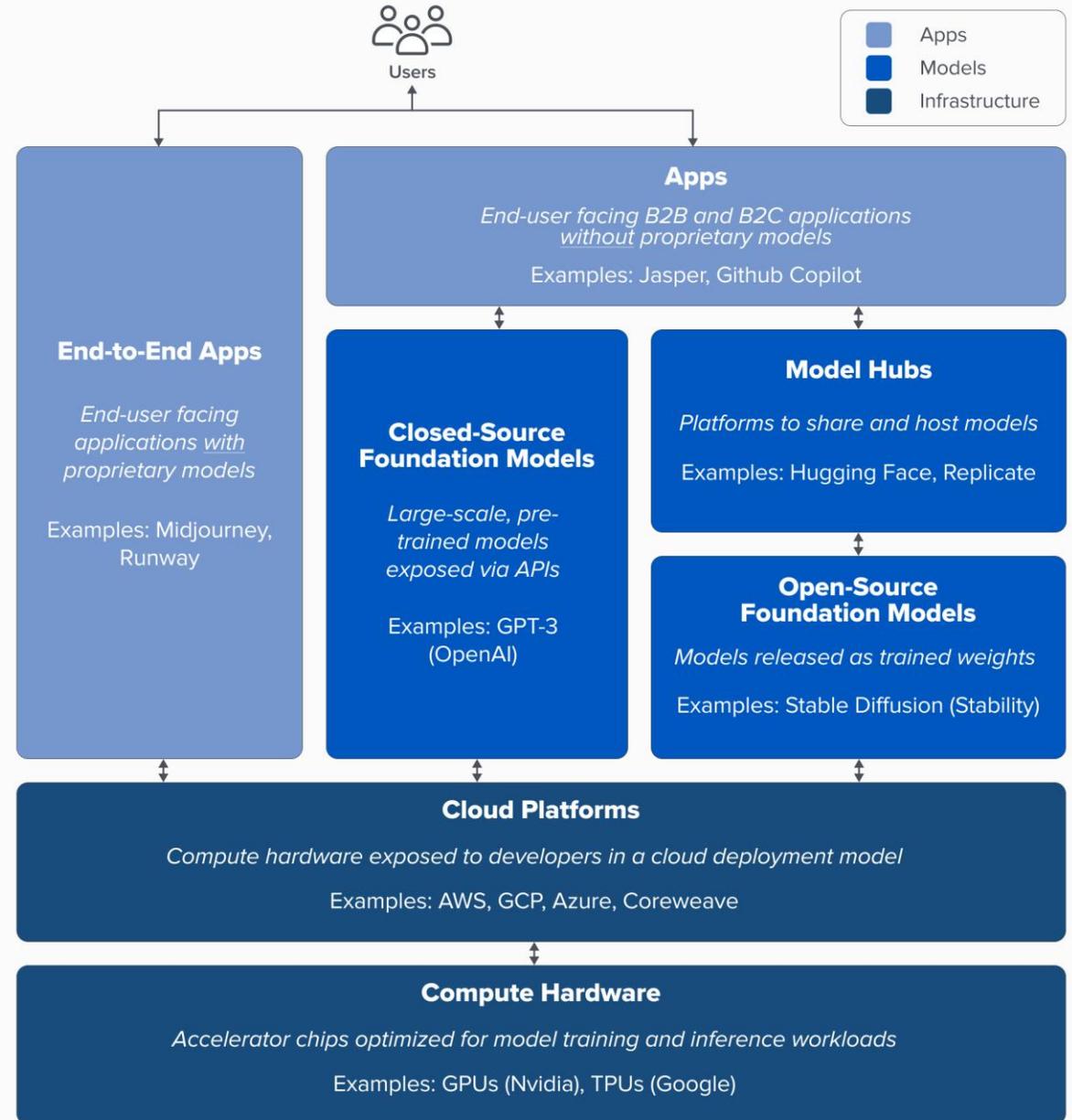
ChatGPT is incredibly limited, but good enough at some things to create a misleading impression of greatness.

it's a mistake to be relying on it for anything important right now. it's a preview of progress; we have lots of work to do on robustness and truthfulness.

4:11 PM · Dec 10, 2022

Generative AI Tech Stack

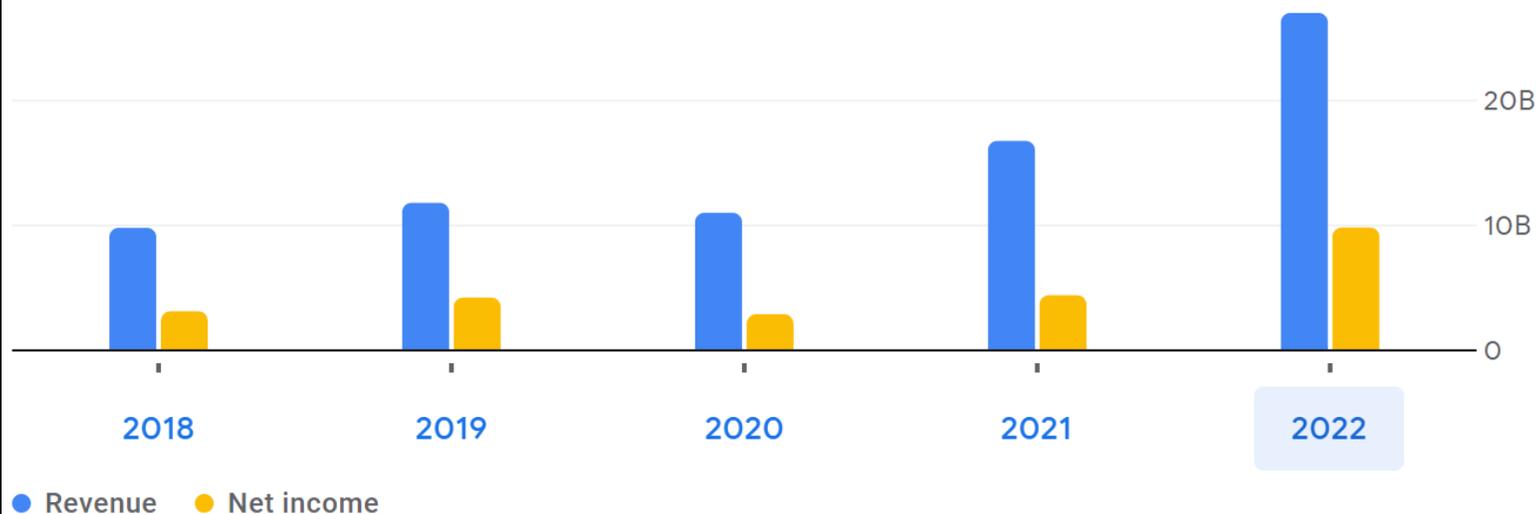
Preliminary generative AI tech stack



NVIDIA Income Statement

Income statement

Quarterly **Annual**

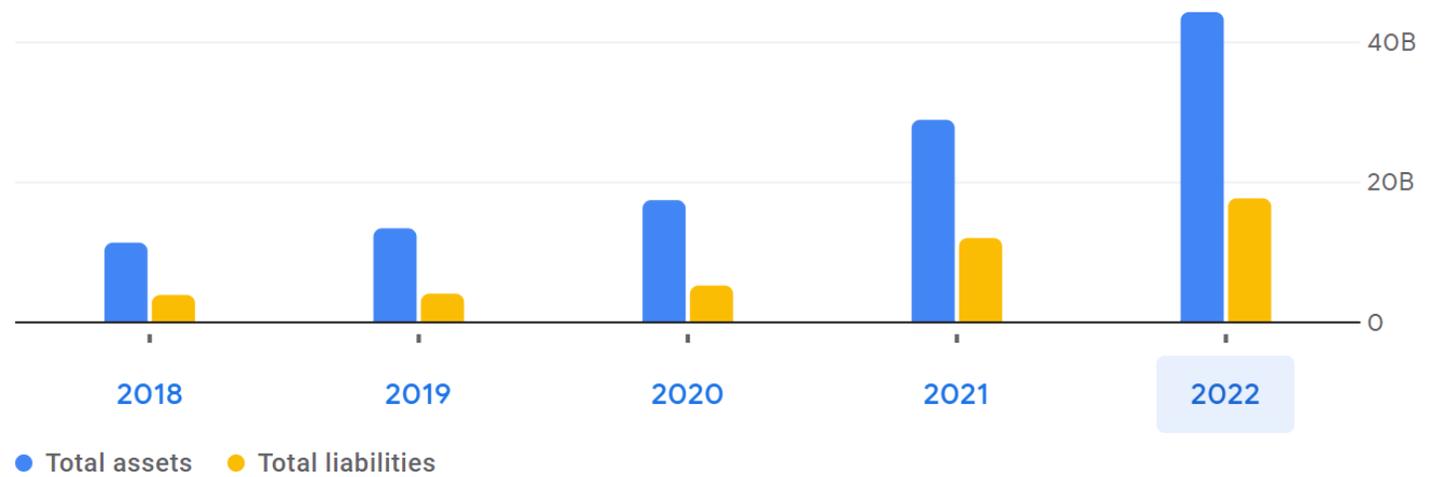


(USD)	2022 ⓘ	Y/Y CHANGE
Revenue	26.91B	↑ 61.40%
Operating expense	7.43B	↑ 27.38%
Net income	9.75B	↑ 125.12%
Net profit margin	36.23	↑ 39.45%
Earnings per share	4.44	↑ 77.60%
EBITDA	11.22B	↑ 92.73%
Effective tax rate	1.90%	—

NVIDIA Balance Sheet

Balance sheet

Quarterly Annual



(USD)

2022 ⓘ

Y/Y CHANGE

Cash and short-term investments

21.21B

↑83.44%

Total assets

44.19B

↑53.48%

Total liabilities

17.58B

↑47.71%

Total equity

26.61B

—

Shares outstanding

2.51B

—

Price to book

18.65

—

Return on assets

17.20%

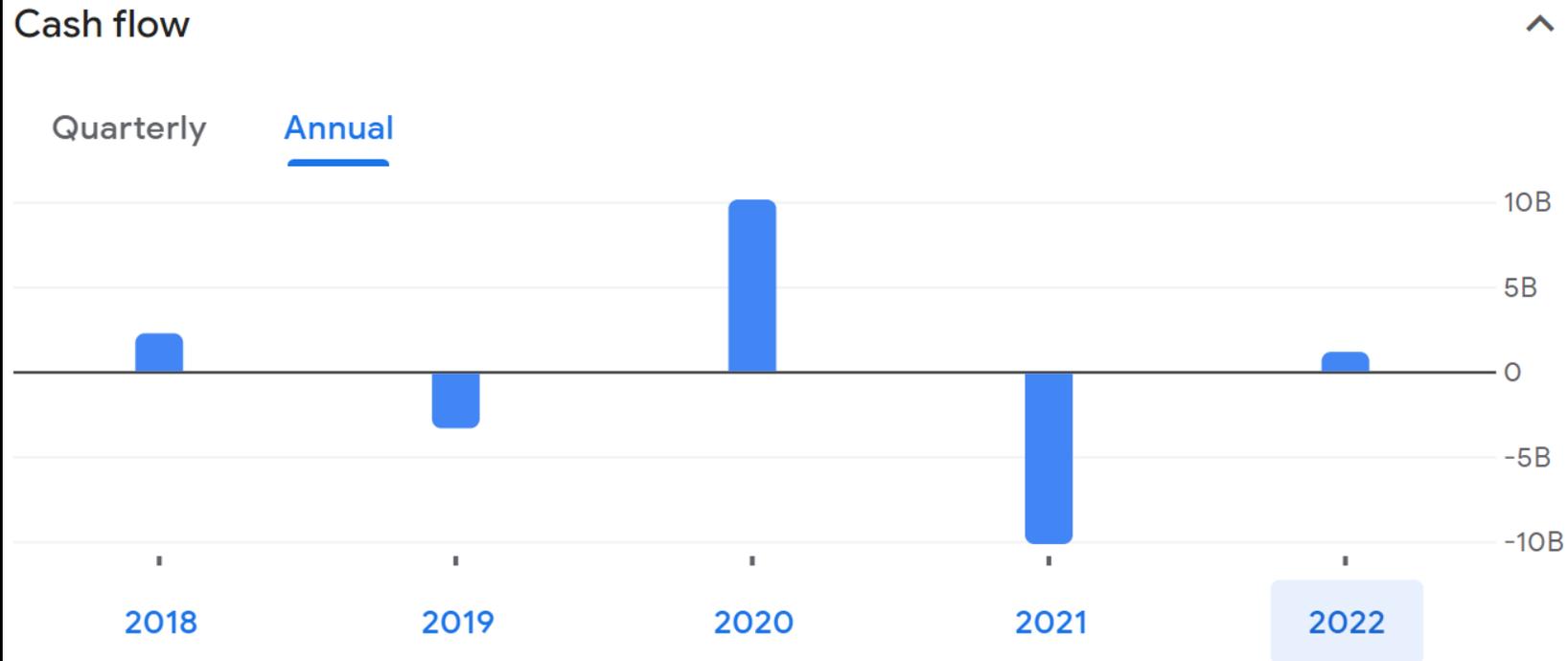
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Return on capital

19.94%

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NVIDIA Cash Flow



(USD)	2022 ⓘ	Y/Y CHANGE
Net income	9.75B	↑ 125.12%
Cash from operations	9.11B	↑ 56.44%
Cash from investing	-9.83B	↑ 50.04%
Cash from financing	1.87B	↓ -50.97%
Net change in cash	1.14B	↑ 111.37%
Free cash flow	6.47B	↑ 73.19%