The Truth About AI Stocks
Plus, Two AI Companies to Own Today
“We’re sort of at the peak of the hype cycle. The hard work really starts now.”
Snowflake (SNOW) CEO Frank Slootman, May 24, 2023, earnings conference call

It's hard to overstate the rise of artificial intelligence (AI) over the past year. Platforms like ChatGPT and DALL-E 2 are now household names. Whereas even a year ago almost no one had heard of any mainstream AI applications for the simple reason that there just weren't many good AI apps for consumers out there.

One year! This kind of quick adoption creates both opportunity and hazard for investors. We've seen this story play out over and over in the tech space – starting with the infamous Dot-Com boom and bust of the late 90s.

People were thrilled to buy any and every dot-com era company even if it didn't have a single product or path to profitability. We saw this same problem with “blockchain” more recently as investors ended up buying absurd pictures of “Bored Apes” for – in some cases – MILLIONS of dollars apiece.
I'm not a blockchain technology expert. But you don't have to be one to conclude that a cartoon picture of an ape is not worth $1.3 million.

But investors frequently find the shiniest – and in some cases – most absurd opportunities in a trend. And seize on them.

We don't want to make that mistake with AI.

So today, I've found two opportunities in real businesses that are already profiting from AI. I firmly believe these companies are more like the Amazon and the Google of AI – not the Bored Ape...

The first one, you already know – (since I revealed it in a recent free write-up) but it's worth going over the specifics because this is an exciting story that most investors are missing...

**Microsoft (MSFT): The Single Best AI Opportunity**

While my preference is to focus on small and mid-cap stocks, right now there is an emerging artificial intelligence (AI) investment opportunity in a mega-cap tech stock that appears so obvious many investors may not recognize it.

The first time I recommended this stock was in 2014. At the time I would talk about the company with relatives, friends and co-workers. The response was almost always the same.

Something along the lines of, “Yeah, sure it’s good. Reliable. Stable. But have you looked at XYZ company? I feel like they're going to be REALLY big”.

Grrrr.

Anyway, the company I was talking about both then and now is **Microsoft (MSFT)**. In my opinion, it is the single best stock to own for AI exposure.
And the market agrees. Microsoft stock is up more than 30% over the last three months. The broad market is only up single digits...

Yes, I know. Microsoft has a market cap measured in trillions.

It is not a small company.

And it's been around for decades.

Frankly, those are all benefits in my mind.

That's because Microsoft has a successful business with or without AI. AI just makes it BETTER. And the company can be selective in how it rolls out AI across its products. Which are already used by millions of people around the world.

In short, Microsoft has the money, the technology, the customers and the vision to be a massively successful AI company. And if AI fades into the background (very unlikely) Microsoft stock is still likely to outperform the broad market over the long term.

Let's go back in time a little.

Microsoft: A Brief History

Microsoft was started as a partnership between Bill Gates and Paul Allen in 1975 when the two developed a programming language for the first personal computer, the MITS Altair 8800.

Their interpreter was called Microsoft BASIC. They convinced MITS founder Ed Roberts to distribute the product. Then more contracts were signed, including with Texas Instruments (TXN), Ricoh and Apple (APPL), in 1977.

The real break came in 1979 when International Business Machines (IBM) contacted Microsoft to develop the operating system for IBM's PC.
The resulting product, Microsoft Disk Operating System (MS-DOS), turned Microsoft from a provider of computer programming languages into a more diversified software development company.

As they say, the rest is history. But the Microsoft story is still being written.

### Microsoft Azure and Office 265: Harnessing the Power of the Cloud

Over the decades, Microsoft has continued to move forward with major innovations that have made its operating system and productivity tools the industry standard.

Microsoft released Azure, its cloud computing platform, in 2008. Over the following years, the company laid the groundwork for a cloud-centric business.

In 2014, when I was pounding the table on the stock, it was gaining momentum with Office 365, the cloud-based subscription version of the popular application suite. Office 365 would help the company corral a massive user base that had drifted away over the years, while also becoming a more profitable version of the perpetual license version that users downloaded about every six years.

Since November 2014 MSFT stock had delivered an average annual return of about 26% and a total return of about 550%.

### Artificial Intelligence (AI)

Today, the company is at the front of another big transformation. The current buzz is all about Microsoft’s investment in artificial intelligence (AI), specifically ChatGPT.

As everybody knows by now, ChatGPT is a natural language processing tool developed by OpenAI. The language model can answer questions and help people complete tasks, such as writing content and code.

It is not perfect. But it is quite good. And the implications for efficiency gains for coders, content creators, etc. are massive.
That's why ChatGPT is the fastest-growing app in history. Reports suggest it gained over 100 million active users in just two months. It took TikTok nine months to cross that threshold.

Microsoft’s AI technology is a foundational tech. That means it will provide the backbone for many of the company's own products. But more impressively, for the products of countless numbers of customers out there too (like the company I'll discuss in a minute).

Microsoft is currently integrating the tech into many of its cloud-based tools, including its Bing search engine, Edge browser, Microsoft Teams (premium version for $10 per month) and more. Thousands of paying customers are already using the new Teams solution.

It's pretty easy to see how Microsoft's already sizeable userbase will embrace the technology across multiple products AND be willing to pay more for it.

In other words, this feels like another “Office 365 moment.”

## Digging Into Microsoft and the AI Opportunity

Microsoft is a massive company providing software, cloud computing infrastructure, consumer electronics and personal computers to consumers and businesses around the world.

The company’s mission is to empower every person and every organization on the planet to achieve more.

Microsoft is organized into three segments, Productivity and Businesses Processes (Office 365, Teams, LinkedIn, Dynamics, etc.), Intelligent Cloud (Azure and other cloud services, consulting, Nuance, etc.), and More Personal Computing (Windows operating systems, devices, gaming, search and news advertising, etc.).

In 2022 revenue grew by 18% to $198.3 billion while EPS grew by 16% to $9.21.

In the most recent quarter, Q3 fiscal 2023, revenue rose 7% to $52.86 billion. Earnings per share (EPS) rose 10% to $2.45. “AI” was mentioned 50 times on the conference call!
That result prompted a wave of upgrades as the company's growth outlook brightened. For full-year 2023 analysts currently see revenue up 7% (versus +5% prior to the earnings report), then up another 12% in 2024.

Earnings per share should grow 4% to $9.61 this year then by 15% to $11.01 in 2024. The stock currently offers a yield of 0.9%.

Microsoft has been laying the groundwork in AI for years. It invested in OpenAI in July 2019 and has been investing in AI within Azure, GitHub Co-pilot and Microsoft Designer, among other solutions, since.

Management says Search is the largest software category in the world and that the digital ad market is worth roughly $500 billion and growing at about 18% a year.

It holds less than 5% market share. That translated into just $18 billion in 2022 ad revenue (9% of total revenue).

The number is so small because the big tree in this market is Google (GOOG), which holds roughly 85% market share.

That said, Microsoft has been gaining share over the last two years. Each percentage point of share gain equates to about $2 billion of Bing revenue. Using rough math, if the company captured an additional 10% market share that's $20 billion in revenue, enough to add roughly 10% to 2022 revenue.

It appears the cost to run all Bing search queries through ChatGPT technology will cost about $600 million to $1 billion per year, assuming no major changes to market share and computing costs (which are sure to change over time).

But again, using rough math, the cost works out to less than 0.5% of estimated 2023 revenue. Which seems reasonable given the monetization opportunities of better-targeted ads and new subscription tiers across products.

The recent quarterly report helps confirm the bull case for the stock.
In my humble opinion, it is the AI stock to own.

On the other side of the spectrum, I’ve found a pure-play AI opportunity. Unlike Microsoft, it’s not a trillion-dollar behemoth – but it aligns perfectly with our portfolio. As well as I expect Microsoft will perform, this 2nd company represents much more upside...

**Duolingo (DUOL)**

### The Big Idea

There are about 2 billion people around the world working to learn a new language.

Some are learning English to help them get into school or get a better job. Data shows workers with exceptional English skills can earn 30% to 50% more than those with just mediocre English skills.

A lot of people just want to know a second, third or fourth language to make traveling more fun or make closer connections with friends and family.

Whatever the motivation, language learning is a big market worth about $60 billion a year. This is why there are so many learning programs out there.

The thing is, learning a language takes time and effort. If somebody doesn’t HAVE to do it motivation can ebb and flow.

And it can be expensive! Just ask any parent paying for a language tutor.

With the recent explosion in AI programs like ChatGPT, you might be inclined to think language learners will just turn to a free online AI platform.

I’m not sure about that.
Sure, just recently a survey from Intelligent.com (higher-education planning platform) showed that students are ditching expensive tutors in favor of ChatGPT for learning some skills. The study showed almost 40% of students have replaced paid tutors with free ChatGPT.

But language is inherently different from many other subjects. The whole purpose of learning another language is to communicate with people. It’s a lot different than math or science or other, less social and interactive subject matters.

The point is, to stick with it and learn a language, people need an engaging and rewarding platform that continually motivates them.

Today’s featured company has done exactly that. Its language learning experience sits right between fun and self-improvement.

People stick with it because it’s fun, effective, and for many, it is completely free (there are paid tiers too).

For those of you who think AI has a place in language learning, I agree. And so does this company’s founder.

He literally wrote the book on how to do it.

His Ph.D. thesis on human computation talked about methods that combine human brainpower with computers to solve problems that neither can solve alone.

He is known as one of the pioneers of crowdsourcing. He founded the company reCAPTCHA (those computer-generated tests that prove you're a person and not a bot), which was sold to Google (GOOG).

This is his most recent venture.
The Company

Duolingo (DUOL) is an educational software company currently leading the market in online language. It has a market cap of $6.1 billion.

The company's mobile-first, gamified-learning platform offers courses in over 40 languages to more than 20 million daily average users (DAUs) and over 70 million monthly average users (MAUs).

These users complete over 1 billion learning exercises every day. This activity fuels a massive dataset that Duolingo's artificial intelligence (AI) team uses to build proprietary systems and continually improve the platform.

In fact, an internal study showed that people that completed beginner-level content on Duolingo learned as much as students that took four university semesters of language.

That's part of why Duolingo is the top-selling education app in the Apple App Store and on Google Play.

The company was founded by two computer engineers, Louis von Ahn and Severin Hacker, who met at Carnegie Mellon University. Louis was a professor and Severin was his Ph.D. student.

The duo had the vision to create an intelligent learning system powered by AI and informed by user-generated data that could deliver better learning outcomes. So that's what they built.

To keep it fun they sprinkled in engaging art, animation and attractive design to help engage learners and keep them motivated to master new material and achieve their learning goals.
The company has strong brand value. Duolingo and the company’s mascot, Duo the owl, have a strong presence on social media and have been featured extensively in the press.

The joke launch of “Love Language,” a reality show from Peacock and Duolingo where sexy singles that don’t speak the same language share a house in paradise, is a perfect example of Duolingo’s creative marketing strategy.

Duolingo generates revenue from four sources: subscriptions (74% of 2022 revenue), advertising (12%), Duolingo English Test (9%) and In-App purchases (5%).

Roughly 45% of revenue comes from the U.S., 10% comes from the U.K. and the balance comes from the rest of the world.
Platform, Approaches & Solutions

Duolingo's platform is built for the mobile generation. The app features on-demand, fun, gamified learning content delivered in achievable, bite-sized portions.

The billion-plus exercises completed on the app every day are studied by Birdbrain, Duolingo's proprietary machine-learning model. Birdbrain helps the company choose exercises that are tailored to every individual user.

Birdbrain also helps power constant split tests (tests that compare user metrics of slightly different platform features, like button sizes or word choices) to make sure that new features that are rolled out drive higher engagement.

While there are premium subscription offerings on Duolingo, a lot of content is free. Around 8% of monthly average users (MAUs) are paying subscribers. Learners who use the platform for free see advertisements at the end of each lesson.

This freemium business model helps the company market on social media, through referrals and other free and low-cost channels and build a large user base that can be monetized through advertising on free products and/or upsells to premium offerings.

Here's a little about Duolingo's current product lineup.

**Duolingo Language Learning App:** The Duolingo Language Learning App is free and offers courses in over 40 languages to more than 60 million monthly average users (MAUs). A desktop version is available.

**Super Duolingo:** Super Duolingo (launched 2017) is a paid subscription offering that includes additional learning experience features not accessible in the free version. A family plan for up to six subscribers was added in 2021. The Super Duolingo userbase grew by 63% in Q1 2023 to 4.8 million.

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**Boost your learning with Super Duolingo**

Learning a language on Duolingo is completely free, but you can remove ads and support free education with Super. First 2 weeks on us!

[LEARN MORE ABOUT SUPER DUOLINGO]
**Duolingo English Test:** AI-Driven Language Assessment: This is an online, on-demand, high-stakes English proficiency test available to anybody with a computer, webcam and internet connection. The computer adaptive test gets harder or easier depending on performance and takes less than an hour. Launched in 2016 it costs $49 per test. The test is accepted by over 3,800 higher ed programs around the world as proof of English proficiency. This test has featured AI technology from Open AI since 2021.

**Duolingo for Schools:** A free, web-based tool tailored for use by teachers in a structured learning environment. Teachers can tweak their own dashboard and assign specific Duolingo content to students and track their progress.

**Duolingo ABC:** A free app that teaches young kids early literacy skills. It is aligned with the Common Core State Standards and is designed based on recommendations by the National Reading Panel. It launched in 2020.

**Duolingo Math:** A free app featuring elementary math for students and brain training for adults.

**Duolingo Max:** A new (March 14, 2023) high-tier subscription offering that builds on Super Duolingo by adding generative AI features powered by OpenAI. The app offers chat features that engage subscribers with Duolingo characters. Features such as “Explain My Answer” offer context-specific explanations while “Roleplay” allows learners to practice conversation skills with Duolingo characters in a certain scenario such as an airport or café.

### Growth Initiatives

**Harness AI Technology:** AI is not totally new to the company but the pace of innovation with AI is accelerating and opening opportunities to better teach, engage and monetize the user base. I think it’ll be exciting to see how the company adds value to off-the-shelf AI by combining the technology with learnings from its vast amount of user data.

**Launch New Products (Max & Math):** Duolingo continues to roll out new products. The latest example is the high-priced Duolingo Max. Using AI in Max will likely reduce content generation costs over time. The company has also launched a Math product.
Path to Profitability: Operating leverage is pushing Duolingo toward profitability. Adjusted EBITDA margin (a measure of profitability) in Q1 2023 was 13.1%, up from 4.9% in Q1 2022. First EPS profits should come in 2025, with the potential to come a little earlier.

Convert Free Users to Paid: Duolingo has consistently grown its paid subscriber base since launching Super Duolingo in 2017. At the end of 2022, 8% were paying subscribers, up from 6.8% at this time last year.

The Business Model

Duolingo products follow a freemium business model where users come in using free, ad-supported products and then the company tries to upsell them to paid products. This business model works well for the company because Duolingo has a very large target market (over 2 billion people) and organic marketing helps grow the free user base at low cost. While paid subscribers are great, free users are also very valuable as they help spread the word, are monetized through ads and generate user data that informs existing product enhancements and new solutions.

The Bottom Line

Duolingo grew 2021 revenue by 55% (to $250.8 million) and 2022 revenue by 47% (to $369.5 million). EPS in 2021 was -$1.63 and in 2022 EPS was -$1.51 (7% improvement). In 2022 subscription revenue grew 51%, advertising revenue grew 16%, Duolingo English Test grew 33% and In-App sales grew 168%. Gross margin improved by 70 basis points to 73.1%.

In the first quarter of 2023, revenue grew 42% to $115.7 million while EPS of -$0.06 improved from a loss of -$0.31 in the year-ago quarter. Both results beat expectations.

Subscriptions, which is by far the biggest revenue bucket, was the main growth driver (+49%), Advertising was about flat (-1%), Duolingo English Test was up 23% and In-App purchases was up 42%. The strong subscription growth was a result of a higher number of paid subscribers (+68% to 4.8 million).
Looking forward, management has guided for continued EBITDA margin improvement (10% - 12% in 2023 versus 4% in 2022) as it expects to control costs and spread them across a higher revenue base.

Analysts are looking for full-year 2023 revenue of $510 million (+38%) and EPS of -$0.56.

### Risk

The biggest risk is competition. There are many players in the language learnings market and switching costs are very low (i.e., easy for a user to move to a different app). Duolingo will need to keep innovating and keeping things fun if users are to keep coming back.

AI hype is a risk. Any stock perceived to have potential connections to AI has gone up lately. While any company in the software space arguably fits this mold, and DUOL is certainly not an extreme case, if the AI craze abates all these stocks could lose some of their shine.

New products might not live up to analysts’ growing expectations.

Data privacy and protection is always a concern, potentially more so with more intensity as AI-based solutions proliferate.

### Competition

Babbel, Rosetta Stone, LingoDeer, Busuu, Lingvist, Mango Languages and more.

### The Stock

**Trading Volume:** DUOL’s 90-day average trading volume is 680,000 shares per day.

**Historical Price:** DUOL came public on July 28, 2021, at 102 and jumped 38% that day. Shares peaked near 200 in September of that same year then fell back with the market. The post-IPO low of 61 was struck on May 11, 2022. The stock traded up after that, spent a few months in the 88 to 113 range, then fell back into the mid-60s for the last couple of months of 2022. DUOL started 2023 off with a bang, racing right back to 105 before a little pullback to 86 heading into the Q4 earnings report.
A solid result propelled DUOL higher and it traded in the 130 to 147 range for several weeks before another dip into earnings, on May 4. Another good result sent DUOL back above 140 within a couple days. The stock has spent the last few weeks in the 140 – 155 range.

Valuation: DUOL currently trades with an EV/2024 Estimated Revenue multiple of 8.5.

Buy Range: In the near term expect to buy DUOL in the 140 to 150 range. Unless the broad market gets in gear, I’m expecting the stock to be rangebound until we learn more about how new products are doing. Since that may not be until the Q2 earnings report we’ll start with a half-sized position. **BUY HALF**

The Next Event: Q2 2023 earnings in August.
About the Expert - Tyler Laundon is chief analyst of the limited-subscription advisory, Cabot Small-Cap Confidential and grand slam advisory Cabot Early Opportunities. He has spent his entire career managing, consulting and analyzing start-up and small-cap companies. His hands-on experience has taught Tyler that the development of a superior business model is the biggest factor in determining a company’s long-term success. Accordingly, his research focuses on assessing the viability of management’s growth strategies, trends in addressable markets and achievement of major developmental milestones.

Tyler’s small-cap portfolios favor a high allocation to stable, high growth companies, upon which he layers strategic purchases of higher risk, event-driven investments. He first began publishing his analysis of small-cap opportunities in 2009. Since 2012, he has led his subscribers into 10 doubles. Between 2012 and September, 2015 his small-cap recommendations generated cumulative returns of over 2,300%, including both winners and losers, and outperformed the Russell 2000 Index by an average of 28% per year.

Prior to joining Cabot, Tyler founded and operated a small business for 15 years. He then worked as a consultant for start-up technology companies, as well as Vermont's largest health care institution. From 2009 to 2015, he was the chief analyst of growth stocks at Wyatt Investment Research, where his research spanned the full spectrum of the growth stock universe, from micro-cap start-ups to multi-national mega-caps.

Tyler holds a B.S. and MBA from The University of Vermont, where he graduated Valedictorian. He has been a long-time contributor to the Wall Street's Best Investments, has been quoted by U.S. News & World Report, and has presented investing ideas and strategies for The Money Show and Bloomberg Markets LiveINSIGHTS.

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P.O. Box 2049 • Salem, Massachusetts 01970 • 1 (800) 326-8826 • cabotwealth.com