

Investing in the growth of AI



Perspectives on fast changing markets and emerging opportunities

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Identifying value in an overheated market requires human ingenuity

Artificial Intelligence, or AI, simulates human intelligence using algorithms, data and computational power with the goal of enabling machines or software to perform tasks that typically require human intelligence. These AI algorithms, also known as large language models (LLMs), use deep learning techniques to perform natural language processing tasks such as generating and classifying text, answering questions in a conversational manner and translating text from one language to another. LLMs are trained on vast amounts of data being generated both on the open internet and in corporate data centers.

It's no surprise that the largest software company (Microsoft) and the largest semiconductor company (Nvidia) have dominated the AI headlines. AI has taken the world by storm ever since Microsoft announced its \$10 billion investment in OpenAI, the creator of ChatGPT, in January of 2023. This was quickly followed by Nvidia's massive increase in growth expectations during their first quarter earnings call in May of 2023. The race to adopt accelerated computing to fuel generative AI applications was on and is now driving more than \$200 billion of investment by large hyperscale companies like Apple, Meta, Amazon, Google and Microsoft. Each of these companies is developing their own LLM or partnering with companies like OpenAI (Microsoft) and Anthropic (Amazon) to power their AI offerings. Meta is developing their own LLM called Claude and Google has their own LLM which is now called Gemini. Each of these companies is relying almost exclusively on Nvidia chips to train their LLMs. Nvidia's graphics processing units (GPU), central processing units (CPU) and associated software and networking products are expected to generate sales of more than \$100 billion in 2024. For comparison, Intel is expected to generate only \$55 billion of revenues in 2024, which is mostly generated by their PC products. Interestingly, Intel was the former leader in data center processors but is only expected to generate revenues of \$13 billion of data center/AI revenues in 2024.

Here at Mesirow, we have invested in the growth of AI adoption by investing in the suppliers of enabling technology. While most of the attention is being paid to companies like Nvidia and Microsoft, there are many opportunities in smaller cap companies that supply technology to the AI ecosystem. Specifically, we have invested in semiconductor and component manufacturers that support accelerated computing. Two

such companies are Rambus (RMBS) and MaCom (MTSI). Rambus supplies both memory products and intellectual property that are utilized in AI servers.

Accelerated computing requires significant memory to drive the performance of these servers, which contain two to three times the amount of memory compared to traditional servers. MaCom provides semiconductor products that are used by optical communication modules that enable the speeds required to run LLMs with hundreds of billions of parameters. Another investment we made in our portfolios is Veeco Instruments (VECO), a supplier of semiconductor manufacturing tools. Their tools are used by both memory suppliers like Samsung and Hynix as well as Taiwan Semiconductor who is the primary manufacturer of Nvidia chips. In both cases, Veeco is supplying tools that are critical to manufacturing chips that are embedded in an AI server.

Over the next 12–18 months, we expect to evolve our approach to investing in AI. Valuations of the companies supplying tools and components have reached elevated levels making it increasingly difficult to find value in the sector. We are discovering more attractive opportunities in software and services that are using AI to drive efficiency and insights for their customers. This is the next evolution of AI and has the potential to drive tremendous long-term value to providers of software that leverage the significant investments in AI infrastructure. We are focused on companies that use their customers' data to feed models that drive insights into their customers' businesses while also generating significant cost savings.

Examples of software and services companies we think are well positioned include Verint (VRNT) and nCino (NCNO). Verint is a supplier of contact center software and services. They have developed AI bots that are trained to use their customers' data to drive significant savings and improve customer experience. Using these AI bots, customers can offload a significant number of customer interactions from agents to bots at a fraction of the cost. In many cases, the customer has a better experience because the bot can recall customer information much faster and understands the context of the call based upon all the customer data at its disposal.

To quantify the impact of this shift, an interaction handled by a bot would cost approximately \$0.35 compared to more than \$5.00 per interaction handled by a human agent.

nCino is using AI to drive customers' revenue and increase their efficiency. nCino provides software used by banks to automate the entire loan origination process. Using nCino software that has access to customer data, a banker can use AI to price loans more effectively, monitor credit risk and drive cross selling opportunities in real time. Not only does this help nCino's customers drive revenue and profitability, but it also increases the stickiness of the software with their customers.

While we are bullish on AI and the implications for tech stocks, we also believe there are multiple ways to leverage AI across our portfolios. AI can be used in drug discovery, inventory management, manufacturing automation and insurance underwriting to name a few potential applications. We will continuously look to uncover additional ways to leverage the staggering investment in AI infrastructure to help drive portfolio performance.

For more information on Mesirow Equity Management please visit us at mesirov.com/equity or contact our Portfolio Specialist at 312.595.7300.

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