AI wins big at the Nobel Prizes: A new era of opportunity for investors

Published 18 November 2024

Mobeen Tahir
Director, Macroeconomics and Thematic Research

Key Takeaways

- AI has achieved its first Nobel Prizes in chemistry and physics, highlighting its far-reaching impact on life sciences and machine learning.
- AI's breakthroughs in biotech and foundational machine learning offer unique investment opportunities in cutting-edge technology.
- AI's transformative potential spans multiple fields, with applications set to drive disruptive innovation across industries.

The Nobel Prize is among the most prestigious global honours, awarded to pioneers whose work brings transformative advancements. For the first time, artificial intelligence (AI) programs have led their creators to win these coveted awards in two categories. At WisdomTree, we believe these moments signal a pivotal shift in the AI megatrend, offering important insights and opportunities for investors.

What WisdomTree offers its investors

The WisdomTree Artificial Intelligence UCITS ETF is crafted to capture the immense growth potential of AI by focusing on pure AI companies. This ETF was developed in collaboration with the Consumer Technology Association, drawing on its expertise to identify the most groundbreaking innovations, trends, and key players within AI. The ETF spans diverse sectors, bringing investors exposure to the full spectrum of the AI value chain. Instead of relying on market capitalisation, the fund selects and weights stocks based on their concentration in the AI theme, allowing a forward-looking approach that minimises overlap with traditional market indices. With this, the ETF seeks to identify and support the next generation of AI giants, aiming to discover the next Nvidia… or perhaps several of them.

The journey of a megatrend

The term "artificial intelligence" was introduced by John McCarthy in 1956 at the first academic conference on AI, describing it as “the science and engineering of making intelligent machines.” This concept sparked decades of gradual progress, with defining moments such as the 1997 chess match when IBM’s Deep Blue defeated world champion Garry Kasparov, showcasing AI's computational prowess and potential

in specific domains. Another significant milestone came in 2012 when AlexNet, a deep learning model, excelled in the ImageNet competition, revealing AI's potential in visual recognition tasks.

In 2016, DeepMind's AlphaGo triumphed over Lee Sedol, one of the world's best Go players, further demonstrating AI's sophistication in handling complex strategic thought. However, the breakthrough that brought AI to the mainstream arrived in 2022 with the release of ChatGPT by OpenAI, sparking global attention and widespread adoption. Now, as we enter a new phase where AI is receiving the recognition it deserves on the world stage, the Nobel Prize underscores the technology's growing significance and legitimises its role in scientific and societal advancement.

And the award goes to…

In 2024, the Nobel Prize in Chemistry honoured Demis Hassabis and John Jumper for their ground-breaking work with DeepMind's AlphaFold, which has solved one of biology's grand challenges: accurately predicting protein structures from amino acid sequences. This breakthrough enables scientists to predict the structures of nearly all known proteins, a feat that previously required years of intensive laboratory research. AlphaFold's success has dramatically accelerated the speed of scientific discovery, marking an inflection point in life sciences by making complex protein structures accessible to researchers worldwide.

Meanwhile, the 2024 Nobel Prize in Physics recognised John Hopfield and Geoffrey Hinton for foundational contributions that have propelled modern machine learning and neural networks. Hopfield's work in associative memory networks enables AI systems to store and retrieve information with precision, while Hinton's Boltzmann machine marked an early model that paved the way for today's deep learning techniques. Their innovations laid critical groundwork for AI's applications, from language translation to medical imaging, showing how AI-driven analysis can reveal insights in data-intensive fields, including physics. This honour reinforces AI's power to transform complex data-driven research, sparking new opportunities for innovation in both technology and scientific discovery1.

We are only getting started

AI is just beginning to reveal its potential, and, as with biotech, which earned its Nobel for advancements in protein modelling, AI's transformative impact across industries is still in its infancy. Tools like AlphaFold have showcased how AI can revolutionise biotechnology, but similar innovations are arising in other fields. In education, AI-driven personalised learning platforms are helping students learn at their own pace, adapting to everyone's strengths and weaknesses. The transportation industry is also evolving, with autonomous vehicles and smart traffic systems improving road safety and fuel efficiency. In the energy sector, AI optimises power grids, forecasts demand, and facilitates the integration of renewable energy sources more effectively.

Finance and healthcare are also experiencing profound changes as AI-driven algorithms redefine investment strategies and assist in diagnosing complex conditions with higher accuracy. The rapid advancements in machine learning and neural networks signal that we are merely scratching the surface of what AI can accomplish. Just as biotech transformed life sciences, AI is poised to reshape possibilities across every major industry, offering investors a unique window into the next wave of disruptive innovation.

What this means for investors

In 2023, following the viral success of ChatGPT, companies across industries began ramping up their AI investments, often touting their AI initiatives in earnings calls to capture investor interest. This enthusiasm boosted many companies, but investors are taking a more discerning approach as the AI landscape matures. Market observers closely track the scale and focus of AI investments, particularly among major technology firms. The AI capital expenditure of large US tech companies is projected to grow from $218 billion in 2024 to $254 billion in 2025, according to Barron's2.

Both investors and corporations are now anticipating AI's next phase – monetisation. This stage will separate short-term hype from sustainable growth, highlighting companies with meaningful AI implementations that drive measurable value. For investors, this shift from novelty to necessity within AI represents a defining moment, underscoring the importance of selecting investment vehicles that look ahead and evolve along with the underlying technological trends.

1 Nobelprize.org, Oct 2024.
2 As reported by Forbes on 30 Oct 2024.

Important Risks Related to this Article

IMPORTANT INFORMATION

Marketing communications issued in the European Economic Area ("EEA"): This document has been issued and approved by WisdomTree Ireland Limited, which is authorised and regulated by the Central Bank of Ireland.

Marketing communications issued in jurisdictions outside of the EEA: This document has been issued and approved by WisdomTree UK Limited, which is authorised and regulated by the United Kingdom Financial Conduct Authority.

WisdomTree Ireland Limited and WisdomTree UK Limited are each referred to as "WisdomTree" (as applicable). Our Conflicts of Interest Policy and Inventory are available on request.

This marketing communication has been prepared for professional investors, but the WisdomTree products set out in this document may be available in some jurisdictions to any investors, subject to applicable laws and regulations. As the product may not be authorised or its offering may be restricted in your jurisdiction, it is the responsibility of every person or entity to satisfy themselves as to the full observance of the laws and regulations of the relevant jurisdiction. Prior to any application investors are advised to take all necessary legal, regulatory, tax and investment advice on the suitability and consequences of an investment in the products. Past performance is not a reliable indicator of future performance. Any historical performance included in this document may be based on back testing. Back testing is the process of evaluating an investment strategy by applying it to historical data to simulate what the performance of such strategy would have been. Back tested performance is purely hypothetical and is provided in this document solely for informational purposes. Back tested data does not represent actual performance and should not be interpreted as an indication of actual or future performance. The value of any investment may be affected by exchange rate movements. Any decision to invest should be based on the information contained in the appropriate prospectus and affer seeking independent investment, tax and legal advice. These products may not be available in your market or suitable for you. The content of this document does not constitute investment advice nor an offer for sale nor a solicitation of an offer to buy any product or make any investment.

An investment in exchange-traded products ("ETPs") is dependent on the performance of the underlying index, less costs, but it is not expected to match that performance precisely. ETPs involve numerous risks including among others, general market risks relating to the relevant underlying index, credit risks on the provider of index swaps utilised in the ETP, exchange rate risks, interest rate risks, inflationary risks, liquidity risks and legal and regulatory risks.

The information contained in this document is not, and under no circumstances is to be construed as, an advertisement or any other step in furtherance of a public offering of shares in the United States or any province or territory thereof, where none of the issuers or their products are authorised or registered for

distribution and where no prospectus of any of the issuers has been filed with any securities commission or regulatory authority. No document or information in this document should be taken, transmitted or distributed (directly or indirectly) into the United States. None of the issuers, nor any securities issued by them, have been or will be registered under the United States Securities Act of 1933 or the Investment Company Act of 1940 or qualified under any applicable state securities statutes.

This document may contain independent market commentary prepared by WisdomTree based on publicly available information. Although WisdomTree endeavours to ensure the accuracy of the content in this document, WisdomTree does not warrant or guarantee its accuracy or correctness. Any third party data providers used to source the information in this document make no warranties or representation of any kind relating to such data. Where WisdomTree has expressed its own opinions related to product or market activity, these views may change. Neither WisdomTree, nor any affiliate, nor any of their respective officers, directors, partners, or employees accepts any liability whatsoever for any direct or consequential loss arising from any use of this document or its contents.

This document may contain forward looking statements including statements regarding our belief or current expectations with regards to the performance of certain assets classes and/or sectors. Forward looking statements are subject to certain risks, uncertainties and assumptions. There can be no assurance that such statements will be accurate and actual results could differ materially from those anticipated in such statements. WisdomTree strongly recommends that you do not place undue reliance on these forward-looking statements.

WisdomTree Issuer ICAV

The products discussed in this document are issued by WisdomTree Issuer ICAV (“WT Issuer”). WT Issuer is an umbrella investment company with variable capital having segregated liability between its funds organised under the laws of Ireland as an Irish Collective Asset-management Vehicle and authorised by the Central Bank of Ireland (“CBI”). WT Issuer is organised as an Undertaking for Collective Investment in Transferable Securities (“UCITS”) under the laws of Ireland and shall issue a separate class of shares ("Shares") representing each fund.

The Fund is described in a Key Information Document (KID) or Key Investor Information Document (KIID) for UK investors, and the prospectus of WT Issuer (“WT Prospectus”). A copy of the WT Prospectus and the KID / KIID is available, for EEA/UK only, in English at www.wisdomtree.eu. Where required under national rules, the KID will also be available in the local language of the relevant EEA Member State. Investors should read the WT Prospectus before investing and should refer to the section of the WT Prospectus entitled 'Risk Factors' for further details of risks associated with an investment in the Shares.

The summary of investor rights associated with an investment in the fund is available in English on WisdomTree Europe's website. WisdomTree Management Limited may decide to terminate the arrangements made for the marketing of its collective investment undertakings. In such circumstances, shareholders in the affected EEA Member State will be notified of this decision and will be provided with the opportunity to

redeem their shareholding in the fund free of any charges or deductions for at least 30 working days from the date of such notification.

WisdomTree Artificial Intelligence UCITS ETF

Nasdaq® and the Nasdaq CTA Artificial intelligence Index are registered trademarks of Nasdaq, Inc. (which with its affiliates is referred to as the "Corporations") and are licensed for use by WisdomTree Management Limited. The WisdomTree Artificial Intelligence UCITS ETF (the "Fund") has not been passed on by the Corporations as to its legality or suitability. Shares in the Fund are not issued, endorsed, sold, or promoted by the Corporations. THE CORPORATIONS MAKE NO WARRANTIES AND BEAR NO LIABILITY WITH RESPECT TO THE FUND.

Notice to Investors in Switzerland – Qualified Investors

This document constitutes an advertisement of the financial product(s) mentioned herein.

The prospectus and the key investor information documents (KIID) are available from WisdomTree's website: **https:** //www.wisdomtree.eu/en-ch/resource-library/prospectus-and-regulatory-reports

Some of the sub-funds referred to in this document may not have been registered with the Swiss Financial Market Supervisory Authority ("FINMA"). In Switzerland, such sub-funds that have not been registered with FINMA shall be distributed exclusively to qualified investors, as defined in the Swiss Federal Act on Collective Investment Schemes or its implementing ordinance (each, as amended from time to time). The representative and paying agent of the sub-funds in Switzerland is Société Générale Paris, Zurich Branch, Talacker 50, PO Box 5070, 8021 Zurich, Switzerland. The prospectus, the key investor information documents (KIID), the articles of association and the annual and semi-annual reports of the sub-funds are available free of charge from the representative and paying agent. As regards distribution in Switzerland, the place of jurisdiction and performance is at the registered seat of the representative and paying agent.

For Investors in France:

The information in this document is intended exclusively for professional investors (as defined under the MiFID) investing for their own account and this material may not in any way be distributed to the public. The distribution of the Prospectus and the offering, sale and delivery of Shares in other jurisdictions may be restricted by law. WT Issuer is a UCITS governed by Irish legislation, and approved by the Financial Regulatory as UCITS compliant with European regulations although may not have to comply with the same rules as those applicable to a similar product approved in France. The Fund has been registered for

marketing in France by the Financial Markets Authority (Autorité des Marchés Financiers) and may be distributed to investors in France. Copies of all documents (i.e. the Prospectus, the Key Investor Information Document, any supplements or addenda thereto, the latest annual reports and the memorandum of incorporation and articles of association) are available in France, free of charge at the French centralizing agent, Societe Generale at 29, Boulevard Haussmann, 75009, Paris, France. Any subscription for Shares of the Fund will be made on the basis of the terms of the prospectus and any supplements or addenda thereto.

For Investors in Malta: This document does not constitute or form part of any offer or invitation to the public to subscribe for or purchase shares in the Fund and shall not be construed as such and no person other than the person to whom this document has been addressed or delivered shall be eligible to subscribe for or purchase shares in the Fund. Shares in the Fund will not in any event be marketed to the public in Malta without the prior authorisation of the Maltese Financial Services Authority.

For Investors in Monaco: This communication is only intended for duly registered banks and/or licensed portfolio management companies in Monaco. This communication must not be sent to the public in Monaco.