IS AI COMING FOR YOUR JOB?

Christopher Gannatti – Global Head of Research, WisdomTree.
05 Apr 2022

Recently, I saw the following headlines:

- "Applied Materials Uses Automation to Shift how Finance Workers Spend Their Time[1]"
- "Microsoft Keeps Its Finance Head Count Flat With AI, Bots and Other Tech[2]"

Combined with the other recent news about 'worker shortages' or the 'Great Resignation' it made me think—is AI ready to come for our jobs?

Step 1: What are applied materials and Microsoft really doing?

The first thing to realise, however, is that words like 'automation', 'AI', and 'Bots' can mean many things depending on the details and context.

The Applied Materials Case[3]

The overall motivation was to free up employees from repetitive work to more analytical work. Some of the items in the toolkit were robotic process automation and cloud computing. Applied Materials as a total organisation was expanding significantly, but the finance headcount was largely flat. It was cited that the firm needed to spend a lot more on research and development (R&D), and that there wasn't budget for increased hiring in finance. A core part of the plan was to increase the skillsets of the current employees to learn new software and become more efficient as opposed to hiring more.

A bottom-line statistic that was given: the finance team was seeking to go from about 60-70% of time on data collection activity to only about 10-15% of time on data collection, with the rest spent on analysis.

The Microsoft Case[4]

Microsoft has about 5,000 employees in its finance team, a figure that has been largely flat even as the company's operations, profits and market cap have grown tremendously. It's clear that Microsoft has a toolkit that includes:

- Artificial Intelligence
- Bots/Virtual Agents
- Cloud computing
- Data lakes
- Machine learning

Forecasting was a great case study for the company, in that it was a process that would tend to take about three weeks at a regular frequency and would involve roughly 1,000 different people. Applying machine learning processes allowed the group to take the time

down, from three weeks to about 30 minutes, and to tighten up the forecast variance, from 3.0% to 1.5%. Similar machine learning tools were used in compliance, internal audit, even to aid in the prediction of future recessions.

Virtual agents—which can recognise up to 60 languages and even recognise 'intent' from natural language processing—handle about 30% of 1 million different virtual queries. It's also true that about 70% of invoices at Microsoft can be covered by machine learning, and the processing error dropped from 2% to 1% since humans no longer needed to manually type things in or do calculations.

Microsoft is well-known for bringing these types of tools to the market, whether through its Azure platform of Office 365 software, but it was interesting to see them 'eating their own cooking' so to speak.

Augmenting the Existing Employees Rather Than Replacing Them

In both cases, Applied Materials and Microsoft, the skills and capabilities of existing employees were enhanced but not replaced. Artificial Intelligence (AI) was not referenced as a 'job-replacer' in either case. Efficiency was the primary focus. It's also worth noting that the Finance function within a typical corporation has a huge chunk of work product that lives within the software, and it may be the case that using this toolkit in the world of software is easier than in the world of three dimensions.

The Berry-Picking Problem—An AI Challenge[5]

Working on a corporate finance team in a large company might be one thing but spending twelve hours a day in fields picking fruit is quite another. Any berry-picking robot operating in a field would need to:

1. Assess the degree of ripeness, so as not to pick under-ripe fruit.
2. Grasp, but not damage the fruit.
3. Pull hard enough to detach the fruit from the stem, but not so hard as to damage the plant.

A human being can do those three things while possibly 'day-dreaming' about something else. A company, Agrobot, demonstrated a strawberry-harvesting robot ten years ago, and it is still just a prototype. Strawberry-picking has attracted the most attention across all fruit picking projects over the past twenty years.

Similar to how autonomous vehicles could have an easier time when new roads are built with sensors directly in them, robots in the agricultural space could have an easier time in more cutting-edge, indoor farming setups that position crops in precise ways, possibly even vertically.

Logistics & Warehouses—AI's Gateway to the 'Real World' so Far[6]

If there is one avenue where AI has clearly begun to have an impact in the real world, it is warehouses. It's notable to indicate that the adoption of more robotics has been beneficial for labour markets. Japan and South Korea are countries with very high robot penetration, and a Yale University study that looked at Japanese manufacturing between 1978 and 2017 found that an increase of one robot per 1,000 workers boosted a company's employment by 2.2%. Research from the Bank of Korea indicated that greater adoption of

robotics moved jobs from certain sectors, like manufacturing, into other sectors, but there was no decrease in overall vacancies. It'll be interesting to see if these findings begin to change in the 2020's.

Conclusion: Humans Should be Excited for the Augmentation AI can Bring to their Activities

As we write these words in early 2022, that current 'state of AI' is much more likely to lead to productivity augmentation than human workers being immediately replaced. 'Efficiency' and 'automation' are among the more commonly used expressions. It's continually exciting to see how engineers attack important, nagging problems of society through these new tools.

This material is prepared by WisdomTree and its affiliates and is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy. The opinions expressed are as of the date of production and may change as subsequent conditions vary. The information and opinions contained in this material are derived from proprietary and non-proprietary sources. As such, no warranty of accuracy or reliability is given and no responsibility arising in any other way for errors and omissions (including responsibility to any person by reason of negligence) is accepted by WisdomTree, nor any affiliate, nor any of their officers, employees or agents. Reliance upon information in this material is at the sole discretion of the reader. **Past performance is not a reliable indicator of future performance.**

Sources

[1] Trentmann, Nina. "Applied Materials Uses Automation to Shift How Finance Workers Spend Their Time." Wall Street Journal. 17 February 2022.

[2] Trentmann, Nina. "Microsoft Keeps Its Finance Head Count Flat With AI, Bots and Other Tech." Wall Street Journal. 10 February 2022.

[3] Trentmann, 2022.

[4] Trentmann, 2022.

[5] Johnson, Khari. "The Elusive Hunt for a Robot That Can Pick a Ripe Strawberry." MIT Technology Review. 16 February 2022.

[6] "The World Should Welcome the Rise of the Robots." Economist. 26 February 2022.

Related blogs

+ Megatrends are about collaboration rather than isolation: A case study of AI & Biorevolution
+ AI: Building Momentum as we start 2022

Related products

+ WisdomTree Artificial Intelligence UCITS ETF – USD Acc (WTAI/INTL)

View the online version of this article here.

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.

For professional clients only. The information contained in this document is for your general information only and is neither an offer for sale nor a solicitation of an offer to buy securities or shares. This document should not be used as the basis for any investment decision. Investments may go up or down in value and you may lose some or all of the amount invested. Past performance is not necessarily a guide to future performance. Any decision to invest should be based on the information contained in the appropriate prospectus and after seeking independent investment, tax and legal advice.

The application of regulations and tax laws can often lead to a number of different interpretations. Any views or opinions expressed in this communication represent the views of WisdomTree and should not be construed as regulatory, tax or legal advice. WisdomTree makes no warranty or representation as to the accuracy of any of the views or opinions expressed in this communication. Any decision to invest should be based on the information contained in the appropriate prospectus and after seeking independent investment, tax and legal advice.

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 or securities in the United States or any province or territory thereof. Neither this document nor any copy hereof should be taken, transmitted or distributed (directly or indirectly) into the United States.

Although WisdomTree endeavours to ensure the accuracy of the content in this document, WisdomTree does not warrant or guarantee its accuracy or correctness. 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.