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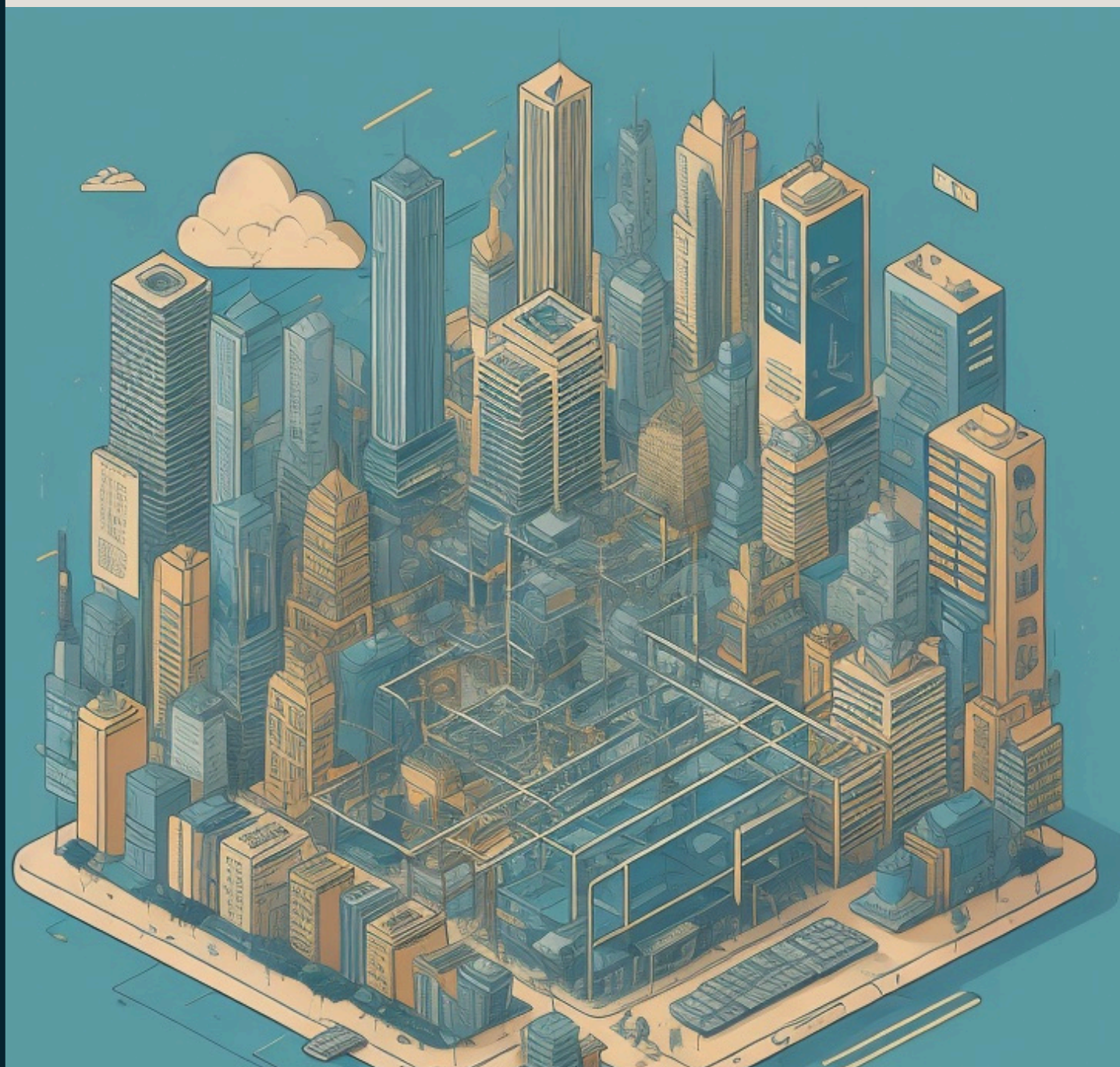
Unleashing Machine Learning, Transforming the Job Market

by Jenna Caroopen

- Industrial Digitalisation
- Development of large language models
- Threat to labour market



Unleashing Machine Learning, Transforming the Job Market

Substituting labour for capital and the impact of Artificial Intelligence in the work place.

Background of Machine Learning

First deep learning introduction was in 1998, the first convolutional neural network was created to helped post offices detect and recognise handwritten cheques or addresses by taking in the pixels of an image and classify the digit or character cash in cheques. These computers evolved introducing autonomous functionality in systems which further developed self-driving cars, web services, drones and robots in manufacturing and farming.1

Industrial digitalisation on a wider scale

Industrial digitalisation accelerates many operational processes whilst improving internal communications. These effective communications flows beyond the enterprise into larger systems including industrial sectors, cities and country governance.

Due to the autonomous capability, artifical intelligence models pose a threat to entry- level jobs as they provide a more efficient cost-efficient alternative to low skilled labourers, learning the market and delivering services in a fraction of the time.

Threat to low skilled labourer jobs

Despite the threat to low skilled labourers, this transformative way of work may not be completely disadvantaged, this may be a new opportunity for up-and-coming workers to break through the glass ceiling of technology. Creating opportunities for high skilled labourers in the finance and technology market.

Through the advancements in Large Language models this generation is more equipped than ever before to be as fit for the job roles as possible. Resumes are being transformed with the cutting-edge AI models mapping the best phrases to suit the job descriptions.

The thriving digital market has completely turned with more people seeking relaxed office jobs run by automated systems, a stark cry from the stressful mountains of paperwork the average worker would have to process.

Due to the speculative behaviour of investors in transformative AI technology, companies such as Salesforce are testing the waters, finding new ways to introduce deep learning resources into their package services consequently, slimming 8,000 of their employees. Salesforce is looking towards launching “Einstein GPT” into its software. The catastrophic risk is Large Language Models improving so quickly that their capabilities of outrunning their creators’ understanding and control2 is becoming an ever-present reality. Perhaps the underlying fear of being disposable and easily replaced by a robot loom over the market.

The overall impact on the labour market

There are a few setbacks to AI completely taking over all human jobs at present mainly due to legislations, expenses and the hardware manufacturing. As a result of Moore’s law, the quantity of transmitters and chips are not directly proportional as this hinders the overall performance of the convolutional neural network.

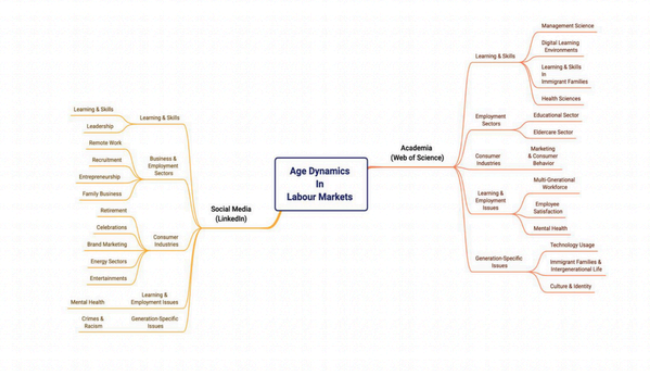
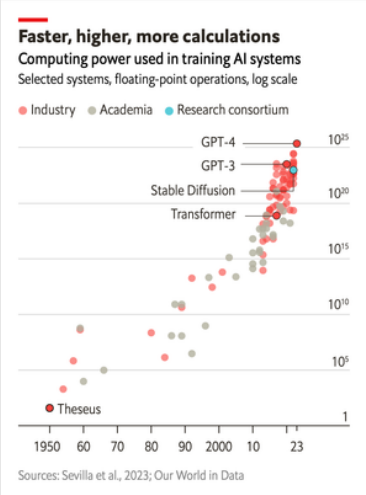


Figure 1 A multi-perspective taxonomy of Multi-Generational Labour Markets

Meaning, there will be a hefty price tag in mass producing artificial intelligence devices to model more efficient strategies for company systems as there does not seem to be a steady advancement in hardware as there is in software.

As companies adopt a transformative approach, labour markets will suffer, eventually eroding away the traditional working environment, threatening the entry-level low skilled job market. However, this births more job opportunities into technology and more research-based roles. High skilled labours will benefit, with governments setting aside funds targeted at research and development roles withing companies.



Between April to July 2023 the number of employed youth rises from 1.4 million to 21.6 million3.

Over time Artificial Intelligence software will become more mainstream and accessible. Perhaps are fearful of being disposable and reluctance to embracing change, will consequently mentally set them up for failure.

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