How will Covid-19 affect employment rate of India by the end of 2022? (Answer in probabilistic and statistical terms)

Covid-19 (corona virus ) has already taken new form as omicron and ruling the existing pandemic situation. Despite, the pandemic, the Work from home and 50% workforce being imposed by majority of the companies to run the organization. Comparing to early first pandemic lockdown situation where many employees were laid off and given only 50% of salary, current situation is complete disparate. According to a recent survey, it is stated that 82% of Indian workforce considering changing jobs in 2022. Considering this fact, I think if a working individual on average applies for a minimum of 5 jobs and probability of him getting into any one is low. India's overall working population was estimated to be at 400.7 million as of January 2021. Such that 400.7 million \* 5 = 2003.5 million opportunities are available. For an employer, to retain the employee, it needs to provide at least 30-50% of salary hike. So, in any terms for a working individual, it is rise and shine state. As these existing workers switching companies for better employment, freshers suffer.

How did Cisco Systems win majority market share in Networking during its early years?

Cisco Systems win majorly relied on market segmentation and marketing strategy. They identified the market transition and they capture the market transition. The adopted acquisition -led growth strategy where instead of being a competitor, they joined hands to become potential partner and increased the revenue.

How will the technology harnessing solar and wind energy affect Humans and Earth in the long term? \*

Even though solar and wind energy being a renewable resource, the manufacturing, installation process and deployment of these resources into valuable energy system does implicates detrimental effects.

* During installation, there is need to drill and blast of rock beds and requires enormous land space.
* The Raptor birds hit with the wind blade and die. This in turn has shaken the ecological balance in the area. Offshore windmills also affect the marine birds.
* The adverse effects of solar power are associated with land use, water use, habitat loss, and the harmful materials used in manufacturing of solar panels.
* Solar panels release nitrogen trifluoride (NF3), a chemical compound 17,000 times worse for the atmosphere than carbon dioxide.
* Silicon tetrachloride, a by-product in making solar panels. This chemical, if not handled and disposed of properly, can lead to burns on your skin, increase lung disease, and if exposed to water can release hydrochloric acid, which is a corrosive substance bad for human and environmental health.

How would you build an AI System which can predict future accidents on roads?

I would build an AI system which can detect over speeding of vehicles in safe zones such as school, park , hospitals where there is a mandate speed limit to be followed. If the vehicle, over speeds in these areas, this AI system will detect and alarm the driver to reduce speed. If over speeding continues, the AI system will automatically send an alert message - accident to possibly happen to the traffic police control room.

What is the likely value of Bitcoin by the end of 2022? (Answer in probabilistic terms) \*

Bitcoin value as of today is 1 Bitcoin = $41,768.65. Considering the entry of new investors and invasion of regulatory bodies to control the crypto currency. There will be a slight increase in the value but not drastically, say if the increase is around 30-40%, by end of 2022, the value of bitcoin will be $55,000 - $70,000.

By which year, EVs will likely replace (80%-90%) Diesel/Petrol vehicles in India? (Answer in probabilistic terms) \*

In India, government has shown a strong intent to drive electrification through enabling policies to overcome the barriers to adoption of EVs. Low GST rate, Road tax and registration wavier, Income tax exemption are attractive policies to encourage people to invest and buy more EVs. EV penetration in India is well poised to witness sharp penetration in 5 years. Suppose if there is increase in EV sales in 2022 and acquires 30% of market, considering sales growth with policies, by 2027, it would capture 80-90% of market.

What are the key factors in building a technological monopoly (from the likes of Google, Microsoft, Apple etc)

The key factors for building a technological monopoly are

1. Intellectual Property Rights(IPR) and Proprietary Technology (X) – To exclusively own the patent, trademarks, copy rights of the innovated product.
2. Economies of scale (Y)

To create a market which has only room for one producer.

If a second firm attempts to enter the market at a smaller size (a), then its average costs will be higher than the existing firm, and it will be unable to compete.

a < Y

If the second firm attempts to enter the market at a larger size(b), then it could produce at a lower average cost—but it could not sell all the product that it produced because of insufficient demand in the market.

Y < b

1. Brand Equity(Z)

Barrier to entry (M-Monopoly) = X+Y+Z

Why are there only two primary CPU chip companies (Intel & AMD) ? \*

The x86 instruction set architecture (ISA) dictates how the processor thinks and executes instructions. So, if you're going to make a program or peripheral that works with a specific processor, it must use the same ISA as the one employed by the CPU. Intel and AMD own these technologies, all other manufacturers has to purchase a license to use these to make compatible processors. Other companies did purchase licenses for them and are even currently making x86 and x64. However, none of them were able to create chips that affected the market. Furthermore, Intel and AMD's market dominance allowed them to develop better processors at lower prices.