

# WSN, AI and IoT: A Future Shock !

Chandrakant Naikodi

Visiting Professor, CiTech, Bangalore, India.

**Abstract :** We have heard 90% positive impact of technology on human. Let us get into some discussions about panicking situations majorly due to collective adverse impact of WSN, AI and IoT. Alvin Toffler wrote in his book "Future Shock", says that "Every convenience has an equal and opposite inconvenience". We all commemorate Newton's third law- "For every action there's an equal and opposite reaction". Edna Ferber said- "Perhaps too much of everything is as bad as too little". Keeping these things in mind and considering drastic growth in WSN, AI and IoTs, there's no doubt that new embedded technologies come with great aids but at the same time, they also have some associated problems. Prof. Stephen Hawking, one of Britain's distinguished scientists, has said that "Efforts to create thinking machines pose a threat to our very existence even it could end mankind! ".

**IndexTerms - WSN, IoT, AI, Sensor, Artificial.**

## I. INTRODUCTION

WSN is called as Wireless Sensor Node/Network which has a sensing capability for various usages. Research trend is changing and our society is adapting sensing technology very fast. Sensors are widely used in military, manufacturing, health management, disaster management, agriculture, wildlife, construction, transportation etc.

AI stands for Artificial Intelligence, which is a collaborative task of science and engineering involved to make intelligent machines, especially intelligent computer software. AI is a consistent effort to make a computer, a robot, or a product to think how smart a human can think. In the broad sense AI is a study of how human brain thinks and acts, determine, decide and work. All these actions and behavior is captured in a virtual container called AI software which makes intelligent software systems. As, AI's aim is to improve computer functions which are related to human intelligence, for example, learning, reasoning, and problem-solving.

Internet of Things(IoT) is the Internet working of physical devices like home appliances, electronic devices, vehicles, sensors, actuators etc . that are capable of communicating among themselves (device1...deviceN) or with the external environment like sensor to vehicles, vehicles to humans that are armed with devices adequate of communicating over a N/W. IoT resides at a higher level than WSN. The WSN is embedded technology used within an IoT system. A large collection of sensors, as in a mesh network, can be used to individually grasp the data and send data via a router to the Internet in an IoT system. Some time WSN is not nearly as encompassing as IoT, WSN is just a network of only wireless sensors. If the network was to include a wired sensor, it could no longer be called as a WSN. This is unlike IoT. Typically any device that connects to the Internet can be considered an IoT device. Hence, an IoT setup can therefore be interpreted as a group of many IoT devices !

In the race to create that next IoTs product that no one can live without such devices, manufacturers and users are creating dangerous side effects called as botnets (a group of Internet-connected devices managed by a central system). The e-market has been pour over with inexpensive devices/sensors, baby monitors, webcams, CCTVs, thermostats, mobiles, computers, etc. that connect to the Internet with IP address. Apart from IoT Criticism, controversies and barriers like Intentional obsolescence of devices, Confusing terminology, Platform fragmentation, Privacy, Design, Environmental sustainability impact, autonomy control, Data storage, Security, Safety, Lack of interoperability and unclear value propositions, Privacy and security concerns, Traditional governance structures and Business planning models, we have serious negative impact on our life, few are listed in below sections.

## II. NEGATIVE IMPACT OF WSN, AI AND IOT: FAKE v/s ORIGINAL

Now it is very difficult to identify what is original and what is fake. Few points are highlighted listed below,

1. AI for Fake push us into an ambiguity in recognition: AI can gather enough information, it can come up with results that mimic the genuine information/video/audio etc. First came the static images| AI managed to create exactly convincing images of people who have never existed.

Then it depicted it was perfectly capable of mimicking different seasons. Example: Lips movement of great personalities or editing their words and retaining their voice as is which was never told them !

2. Fake reviews and news and medical reports and fake messages , aging, certificates, scamming, fooling, fake foods, fake educating students due to fake ppt, fake reviews

3. AI for fake, fake for AI: This is a deadlock situation, AI can be used to recognize fake images at the same time we can use it to create fake images

4. Fake technical books papers: Many technical books/paper are generated from the AI algorithms since we have lot of data on technical books online.

5. Messed up agriculture: AI is playing roles in most the the areas like engineering, agriculture, medical, arts, aerospace, navy, army, etc.

6. Truth and non-Truth: Extracting truth from the AI imposed/manipulated subject is really tough.

7. Court and trails: If people are not happy about other's arguments then they will approach Judicial system which can land in self loop in finding what is the truth?

8. Fake profiles and Fake humans: AI can help to create fake profiles which will look like originals and it can confuse those who looks at these profiles!

9. Fake news and propaganda is only going to get worse: Nowadays we are seeing misleading news on social networks like Twitter, Whatsapp, Facebook is really bad. Such news are even produced by AIs and it is really tough to find what is fake and what is real news.

10. Manipulating public opinion: Fake news/videos triggered by bots and AI could have a drastic impact on public opinion, discombobulate all layers of society, from politics to media.

11. Fake food products: AI-DL can help to produce fake food products which can potentially harm human being.

12. Fake videos: People are using AI create fake adult video of many celebrities.

13. News writer: AI can able to write articles for news-fake/genuine.

14. Hide from Plagiarism: People are using AI to copy content from the Internet and ensuring that it does not detect plagiarism >10 %.

15. Fake Apps: Including fake sites, we are hitting Fake Apps Attack which can cause serious damages to IoTs.

### III. OTHER NEGATIVE IMPACT

Based on the impact of these technologies, we can categorize into following types and it's sub-types,

#### A. Easy v/s Complexity:

Life easy but if system fails then turns into complexity ! For 2020, the installed base of IoT devices is forecast to increase to almost 31 billion worldwide, which indicates how human being is going to be surrounded by IoT devices and we cannot do without their support !

1. Error reduction vs increase: AI can help to decrease errors but what if itself fails?

2. Education: It is becoming easy to students to learn anything from the internet but at the same time they could not decide which is genuine/fake

content as there are many fake content generated either for publicity or gaining money.

3. Google Map: More dependent on GPS to navigate. Less direction sense.

4. Easy to write poems and letters: Say 'I Love You' to AI because it can help you to write Love letters on behalf of you to your Girl Friend hoping she is not virtual too !

5. Hides real intelligence coding: Software coding is becoming automatic and people's knowledge is limited to Application level.

6. IA v/s AI v/s AI: This is called Intelligence Assessment v/s Artificial Intelligence, enable him to think and apply on him what he is thinking exactly like Search, Pattern, Image processing, ML, DL etc.

#### B. Underflow v/s Overflow: Number of Experts underflow, unemployment overflow !

1. Job loss: This is a tricky situation, in some angle it will show employment creation but in other angle it shows negative impact on Jobs.

2. Competition is high: Not everybody becomes Einstein or rank holder, but it certainly enforces to learn more and more. Now we need to run 1000KMPH to catch the current speed/trends whereas earlier it was 100KMPH ! because we have pumped a lot of technologies and data into the world which is essential for everybody to learn !

3. IoT trouble shooter also need IoT: IoT is a chain of devices and they will be troubleshooted using devices only !

4. Cannot escape: Since all in race, so left out or side people cannot escape this race, so enforced them to be in the same page.

5. Increased Bullying: IoT and alias will increase in bullying and escalated the degree of severity.

6. Addiction: Day by day people are addicted to IoT tools. They take devices like cell phones into bathroom too or Smart Bathroom !

7. Increases Automation: This will impact on manual testing community and increases unemployment.

#### C. Compatible v/s NonCompatible: Compatible with devices but non-compatible with humans.

1. Relationships are compromised: Nowadays people are not sitting together for meals, discussions, meetings, etc, hence they loose personal touch !

2. Confusion: No surprise, devices are more compatible/comfortable than spouse ! Hence there will be confusion in choosing robots or girl/boy.

3. Love letters: Use AI devices to learn about your Girl/Boy friends, then AI devices can form nice Love letters for them ! Happy AI Love !

4. Isolation: People are busy with their gadgets hence lack of contact with other people in normal daily living, such as- the workplace, with friends and in social activities.

5. Stop helping: People are busy with their devices while walking, sleeping, running, jogging hence they will either donot notice help seekers or they neglect even if they have watched them !

6. No Guide/Teacher: Teacher and Students relationship will be washed-out in the coming era due to online content, Youtube and self studying.

#### D. Healthy v/s Unhealthy

We have better health monitoring systems than making us healthy ! Today we have Computer Technology touching every individual directly or indirectly. Statistics disclose that more than 60% of India does not have access to basic facilities, but people in

this areas have access to mobiles, smart phones or TVs. Ultimately IoT technology should help us make life easier, which we require to use effectively. When we become a slave to technology the effects are definitely.

1. Centralized failure: Many medical devices are dependent on many devices with master and slave structure, if a master fails then doctors become

clueless ! they are neither expertise in troubleshooting Engineering device nor expert in treating patients without these devices !

2. More radiation: More devices surrounded with humans means more radiation emitting !

3. More stress due to devices: People are stressed not just due to spouse problems but from IoT devices too ! most of the time without their knowledge they are busy doing nothing ! Continuous working or restless working causes an extra layer of stress due to overuse of technologies.

4. Selling their Organs: People loosing their organs like kidneys, liver for Mobile phones/devices becoming a common habit.

5. Wearable Devices Impact: Means radiation is constant around you !

6. Useless parts: Parts of Human brains become useless as we don't really use it for any purpose hence our next generation doesn't have it similar to our human-tail story.

7. Human body structure will change: As we are always tied with devices like mobile, smart watches, keyboards etc., this will certainly alter our structure of the body but it is over a period.

8. Fatal deceases: Many devices has their limitations or they donot know whats deceases comes in the future? so it may fail to identify future fatal deceases.

9. Developmental Issues in Children: Nowadays, more children uses a lot of technology devices, certainly it poses negative impacts on our children like addicting to Games, Sex videos, Funny videos, Surfing, Chatting, Talking etc.

10. Poor Sleep Habits: Most of the time we get stuck into work or online activities that keep us up too late or busy and the continuous stream of data can make it difficult to turn off our brains.

11. Obesity or Laziness: People will be spending their time on video games, mobiles, googling,chatting/ talking to friends online, YouTube etc and no time for activities or exercises.

12. Shortened Attention Span or less concentration:The gadgets shortened our attention span from 12 minutes to 5 minutes.

13. Neurosis: It makes us suffer from mental and emotional disturbances, such as phobias, anxiety and delusions, which are all indication of neurosis.

14. Neck and Head Pain: Continuously looking down at systems can cause neck pain and over time will cause the neck to lose its natural curve. Similarly Eyestrain can also cause blurred vision, headaches and migraines.

15. Depression: Due to lack of human contact, overeating, over working and lack of exercises will lead to depression.

16. Lack of Sexual Boundaries: Nowadays people and children are more searching about sex irrespective of existing firewalls configurations, Govt. ban, etc, this leads to early exposing to sexual relationship.

17. Remote-controlled car crashes: Any inhuman controlled devices will be more prone to crash.

### **E. Gain v/s Lost**

We lost over intelligence due to machine help and we gained their control to operate as of now !

1. Knowledge Loss: We can use BCI(Brain-Computer Interface) or HumanComputer Interaction(HCI) technology to grab your knowledge without your knowledge !

2. Creativity Loss/Intellectual Death: We will be degraded as we start using trained systems with improvements, hence our knowledge could be limited to only coding or decoding intelligence or application level.

3. Loosing Cool on Earth: Day by day environment gets hotter because more and more devices are added everyday into our lifestyle. Even sparrow like birds too missing from the city areas !

4. Lack of Social Skills: Since we less frequently meet with people resulting in a lack of much needed social skills hence we lose the practice to read body language and social cues in other people.

5. Kills Time: This technology can kill our time unknowingly.

6. Benefits to Few People: Extends and expands creativity for only few people but others are just end-users and they donot know what is the behind scene of such devices.

7. Troubleshooting is tough: Systems are near to operate for any help but troubleshooting techniques are really far from us. People has to run far

8. Killed Engineering and Non-Engineering Branches/Courses: Using WSN,AI and IoTs, we have almost handicapped other branches other than Computer Science ! This result in imbalance-system of learning and enforcing to learn Computer Science whether they are interested in it or not.

9. Expert in overnight: BCI/HCI modeling can be used to pump/dump all required data into your brain just by sitting and need not study manually, all your brain cells are filled with required information !

10. e-Waste v/s Waste-e: We do lot of electronic wastes(e-Waste) on our environment hence it turned into waste environment(Waste-e). With the fast changing world of electronics and technology, we forced to through out the old electronic devices, in with the new is adding to the levels of

toxicity in our land and air. E-waste can cause deadly chemicals to leach into the ground. Industries that manufacture the electronics are emitting toxic fumes into the air.

11. Space v/s no-space: We have lot space in Disk but not in Home to keep things !

12. Too much data: We have devices which generates lots of data, we need big data storage if we want the history.

13. Conclude v/s Confuse: We conclude which AI based IoT devices needs to be used for us and we will have confusion to acquired new version and it's priority !

14. Loss of control: If machines do get smarter than humans, there could be a loss of control that can be a detriment. Whether that happens or whether certain controls can be put in place remains to be seen.

15. Loss Ethical Values: Day by day people loosing their ethics due to ongoing growth in technologies.

16. May kill us: Set of Masters can kill all non-AI experts !

### F. Security v/s Non-Security

We are using many AI based security techniques but at the same time we can use AI to breach this security ! Webroot report that 91% cybersecurity professionals are concerned about hackers using AI against companies in cyberattacks. Always data security is a cat-and-mouse game continues with AI. Fraud/bad gang will be behind as soon as a security innovation comes to market and they becomes part of their arsenal. Most cybersecurity professionals in both the U.S. and Japan are anxious that hackers will begin using AI against them in cyberattacks.

1. Cannot Ensure Safety: AI Safety can be broken by AI itself !
2. Your brain data copied !: BCI/HCI can be manipulated to train or steal other's brain data unknowingly- say you are traveling in the public transport and we can attach BCI/HCI devices inside vehicles and sense your brain's data. Though it is process based but BCI/HCI can be improved and this scenario could be possible.
3. Loss password: Again, using BCI/HCI we may loose passwords which will become non-protective in the future !
4. Target and Kill: AI to kill humans by feeding his face pattern into AI enabled Drones with Gun to shoot accurately so dangerous than nuclear weapons !
5. Master Control: In the future we may hit situation like few people will control the larger population.
6. Lack of Privacy: Nowadays people has more sinister intentions, the use of phishing, viruses and hacking helps to find any data they wish to get and people have no mind of privacy online.
7. Compromising Smart Devices: If any device compromised with malware/viruses then these devices can act opposite side of our need.
8. Phishing scams could get even worse: Phishing scams would form auto emails, bad websites or links and it could be sent from fake accounts that are able to imitate the writing style of people's friends hence they look real.
9. Hackers start using AI like financial firms: One side banks and credit card firms adopt ML to improve their services, so too hackers does same thing.
10. Fake digital fingerprints: AI can fool fingerprint scanners on smartphones which is raising the risk of hackers using the vulnerability to steal from victim's online bank accounts or crucial things.
11. AI could make weapons more destructive: More improvements in AI could enable people, even a person to cause widespread violence. Say, many algorithms that can detect faces or help drones navigate, self flying drones with the ability to detect a person's face and then perform the attack.
12. Sophisticated phishing: AI can extract sensitive and individual data and can cause attacks more successfully than any human could.

### IV. RESULTS AND DISCUSSION

In this paper we have discussed what are cons of WSN/AI/IoT and its combined negative impacts. Apart from WSN/AI/IoT Criticism, controversies and barriers like Intentional obsolescence of devices, Confusing terminology, Platform fragmentation, Privacy, Design, Environmental sustainability impact, autonomy control, Data storage, Security, Safety, Lack of interoperability and unclear value propositions, Privacy and security concerns, Traditional governance structures and Business planning models, we have serious negative impact on our life, few are listed in below sections.

