### Cyber Security And Its Role in Emerging Technologies

#### **State Sponsored Attacks**

**Cyber Warfare -** Cyber Espionage, Cyber Economic Warfare, Cyber Sabotage, Cyber Intelligence etc.

**Cyber Information Warfare** - Social Media Intelligence. Gathering, Disinformation/Propaganda, Digital Insurgence, Narrative Engineering etc

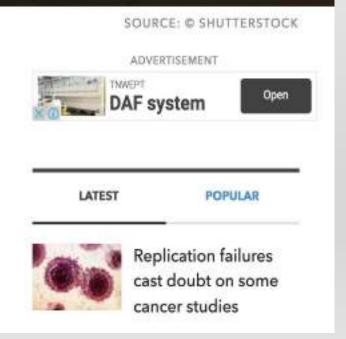
#### FLORIDA HACK

# Florida drinking water plant hack briefly raised sodium hydroxide levels 100-fold

BY TIM WOGAN | 11 FEBRUARY 2021



A hack targeting a US drinking water facility just outside Tampa, Florida increased the levels of sodium hydroxide more than a hundred-fold. The motive for and agents behind the attack, which was detected before the public was put in any danger, remain unknown, but it demonstrates the dangerous vulnerability of chemical plants and other critical infrastructure to cybersecurity breaches.



#### **Cyber Breaches Damages Cost**

- A 2017 report from Cybersecurity Ventures predicted ransomware damages would cost the world \$5 billion in 2017, up from \$325 million in 2015 a 15X increase in just two years.
- The damages for 2018 were estimated at \$8 billion, and for 2019 the figure rose to **\$11.5** billion.
- The latest forecast is for global ransomware damage costs to reach \$20 billion by 2021 which is 57X more than it was in 2015.
- As per reports by FBI, **cyberattacks have increased by 300%**, since the start of the coronavirus.
- In 2020, the average business cost of a **cyberattack was \$3.86 million** and it takes over 200 days to detect the breach.
- Cyberattacks projected to hit **\$6 trillion in annual loss in 2021** which has doubled since 2015.
- Public companies lose an estimated 8.6% of their value after a cyber breach, according to Comparitech

#### K-ELECTRIC DATA BREACH

	ww.ke.com.pk - Encrypted		
Secret data:	Password:		THE SECRET DATA IS PUBLISHED
K-Electric (KE) has powered	l Karachi for over one hundred years. Through a	network spanning across 6,50	00 square kilometres, KE supplies power to all resid
commercial, industrial and ag Sindh, and Uthal, Vinder and	gricultural areas that fall under the city's ambit a	nd beyond, serving over 2.5 n	nillion customers across Karachi, Dhabeji and Gha
KE is the only vertically-inte - of producing and delivering		e organisation manages all the	ree key areas - Generation, Transmission and Distr
- or producing and derivering	g energy to consumers.		
	ARC Project		Frita-Nutslage :
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#### PAKISTAN'S RAILWAY BREACH



#### FBR'S DATA BREACH

#### FBR reels under a major 'cyberattack'

Data centre compromised, all websites down since 2am Saturday

Shahbaz Rana August 15, 2021



#### ACCESS BEING SOLD ON UNDERGROUND HACKING FORUM

#### Network access fbr.gov.pk 1500+ systems

SintelopsX · ① Tuesday at 19:15



Tuesday at 19:15

Federal Board of Revenue Pakistan

Access to system Connected to network on 1500+ computers.

Will give you access to 2-3 systems with steps to infect all live machines on network

Price 26,000\$

If you want us to infect all machines and transfer to you, Price 30,000\$ (Your bot should be FUD)

Guarantor accepted. Contact in PM

△ Complaint

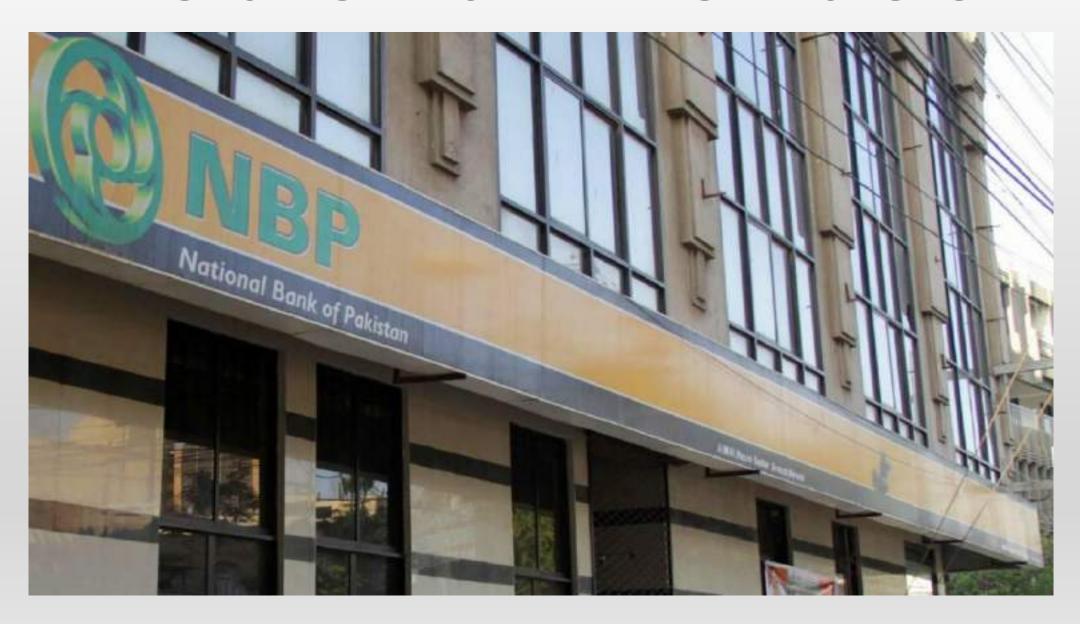
#### ATTACKS AGAINST HEALTH SECTOR

#### Maroof International Hospital Hit with Severe Ransomware Attack

Posted 2 years ago by Rizvi Syed



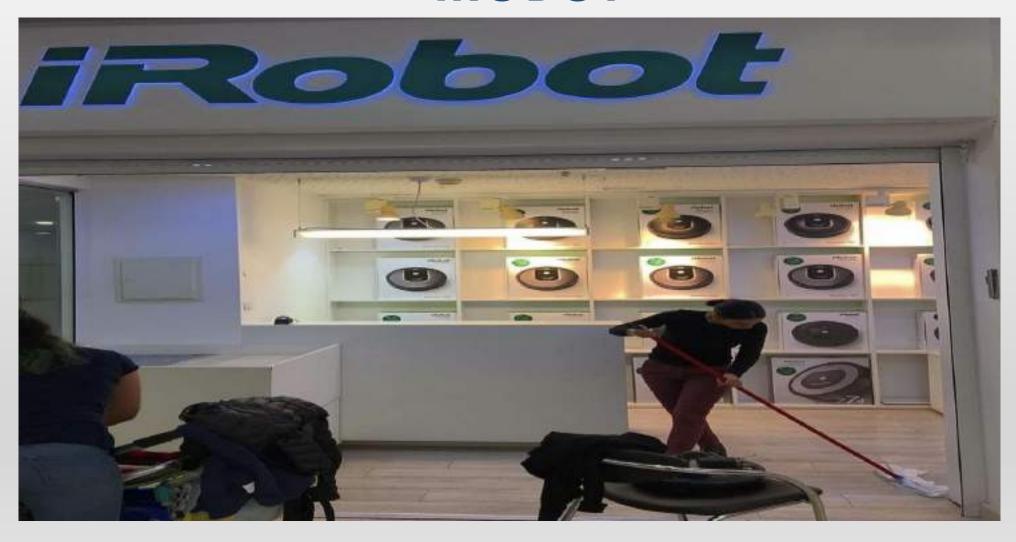
#### ATTACKS AGAINST FINANCIAL SECTOR



## ARTIFICIAL INTELLIGENCE – COST EFFECTIVE AND EFFICIENT



#### **IROBOT**



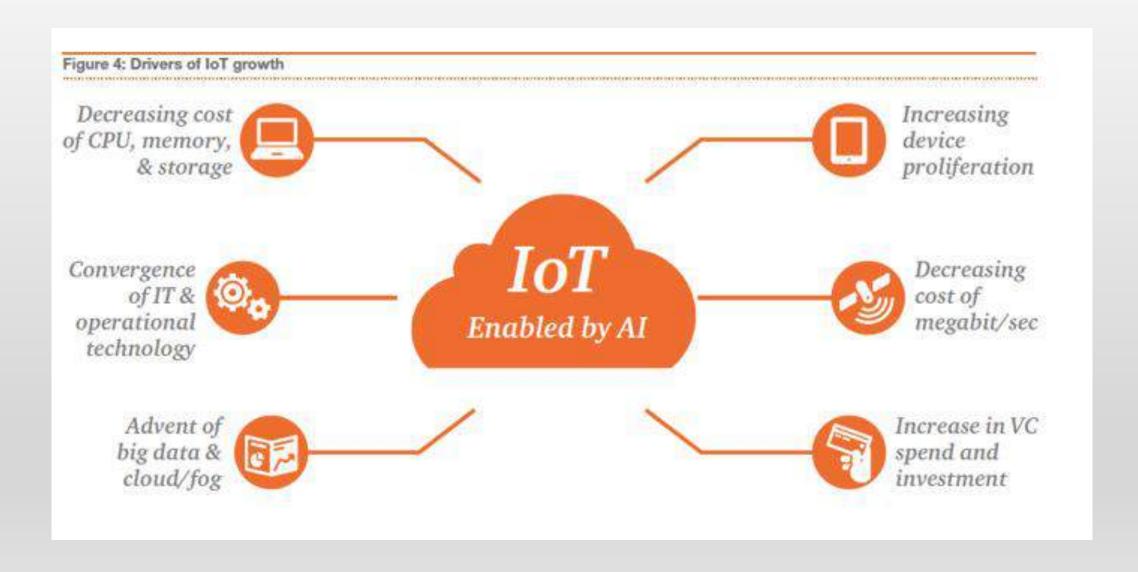
#### **TOM & JERRY**



#### GAN - DEEPFAKE



#### ARTIFICIAL INTELLIGENCE - IMPACT ON INTERNET OF THINGS (IOT)



#### GAN - DEEPFAKE





#### **MACHINE LEARNING POISONING – EG 1**



#### MACHINE LEARNING POISONING – EG 2

# Amazon's sexist hiring algorithm could still be better than a human

Expecting algorithms to perform perfectly might be asking too much of ourselves

By Maude Lavanchy

Amazon decided to shut down its experimental artificial intelligence (AI) recruiting tool after discovering it discriminated against women. The company created the tool to trawl the web and spot potential candidates, rating them from one to five stars. But the algorithm learned to systematically downgrade women's CV's for technical jobs such as software developer.

#### RECOMMENDATIONS

- DIGITIZATION is necessary, however cyber security should not be undermined in this process.
- Regulations should not be stringent to prevent innovation.
- "Wait and see" approach is not appropriate given the current scenario.
- Multi-stake holder collaboration is necessary.