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# Universal College of Engineering

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Gujarati Linguistic Minority Institution

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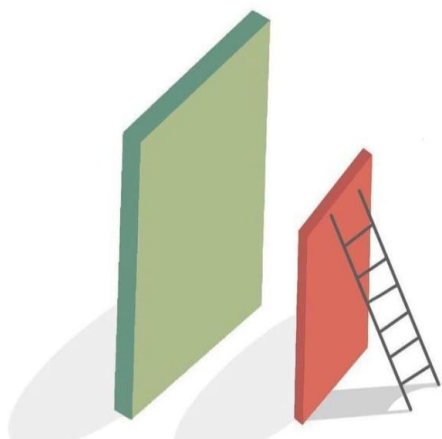
An Initiative By



Department of Information Technology

## #Satyavachan

If your ladder is against the wrong wall,  
You will just get to the wrong place faster.



Staff Coordinators:

- Ms. Shraddha Sandimani
- Mrs. Mudra Doshi

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## Different Types Of Firewalls Explained

Secureb4.io

# Different Types Of Firewalls Explained



## SECUREB4

We Strengthen Your Security

### Software Firewalls

1

A software firewall is installed on the host device. Since it is attached to a specific device, it has to utilize its resources to work. Therefore, it is inevitable for it to use up some of the system's RAM and CPU.

### Packet-Filtering Firewalls

2

Packet-Filtering Firewalls serves as an inline security checkpoint attached to a router or switch. As the name suggests, it monitors network traffic by filtering incoming packets according to the information they carry.

### Cloud Firewalls

3

A cloud firewall or firewall-as-a-service (FaaS) is a cloud solution for network protection. Like other cloud solutions, it is maintained and run on the Internet by third-party vendors.

### Proxy Firewalls

4

It serves as an intermediate device between internal and external systems communicating over the Internet. It protects a network by forwarding requests from the original client and masking it as its own.

### Hardware Firewalls

5

Hardware firewalls are security devices that represent a separate piece of hardware placed between an internal and external network (the Internet). This type is also known as an Appliance Firewall.

### Next-Generation Firewalls

6

The next-generation firewall is a security device that combines a number of functions of other firewalls. It incorporates packet, stateful, and deep packet inspection.

### Circuit-Level Gateways

7

Circuit-level gateways are a type of firewall that work at the session layer of the OSI model, observing TCP (Transmission Control Protocol) connections and sessions.

### Stateful Inspection Firewalls

8

A stateful inspection firewall keeps track of the state of a connection by monitoring the TCP 3-way handshake.



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Contact us Now!

# 3 Common Questions About Artificial Intelligence

## 1 How can you capture the AI opportunity?



Business, IT and data and analytics leaders must articulate and agree on a generally accepted definition of AI focused on what the organization wants it to accomplish.

## 2 What can AI do for an organization?



Reveal better ways of doing things through advanced probabilistic analysis of outcomes.



Interact directly with systems that take actions, enabling the removal of human-intensive calculations and integration steps.



Accelerate the growth of digital business.



Automate and optimize to generate insight and create human-like engagement.

## 3 How does the future look for AI and AI technologies?

For companies and governments, AI is becoming more familiar, scalable and useful:



IT tools and skills are now AI-friendly.



AI is cheaper, and success is more achievable than ever.



IT and business leaders more frequently consider AI as a way to improve applications.

By 2025, **50%** of enterprises will have devised AI orchestration platforms to operationalize AI



up from fewer than **10%** in 2020.



Source: Gartner  
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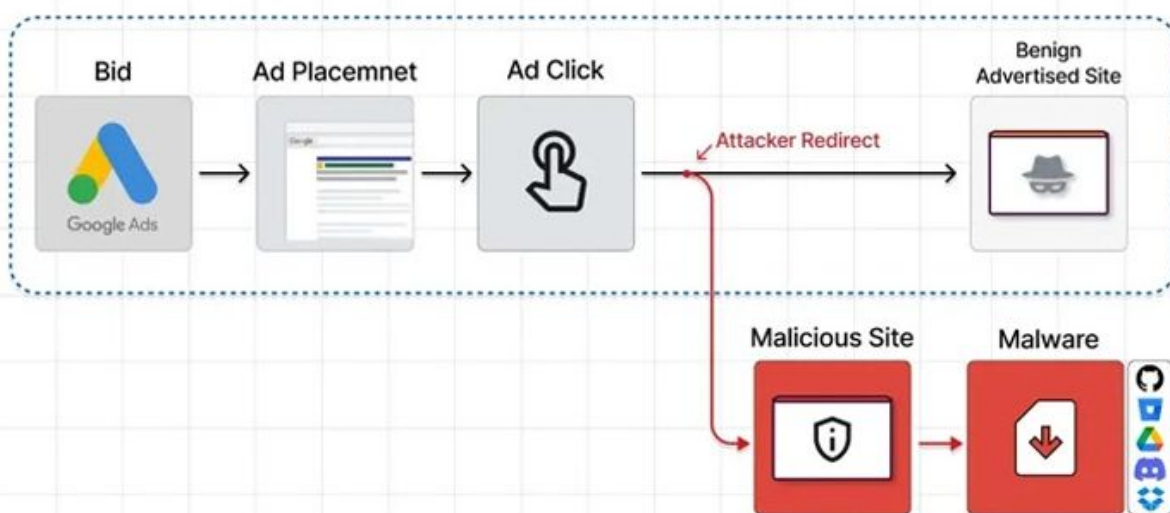
- Mr. Akshay Agrawal  
(Assistant Professor)

# New Malvertising Campaign via Google Ads Targets Users Searching for Popular Software

Users searching for popular software are being targeted by a new malvertising campaign that abuses Google Ads to serve trojanized variants that deploy malware, such as Raccoon Stealer and Vidar. The activity makes use of seemingly credible websites with typosquatted domain names that are surfaced on top of Google search results in the form of malicious ads by hijacking searches for specific keywords.

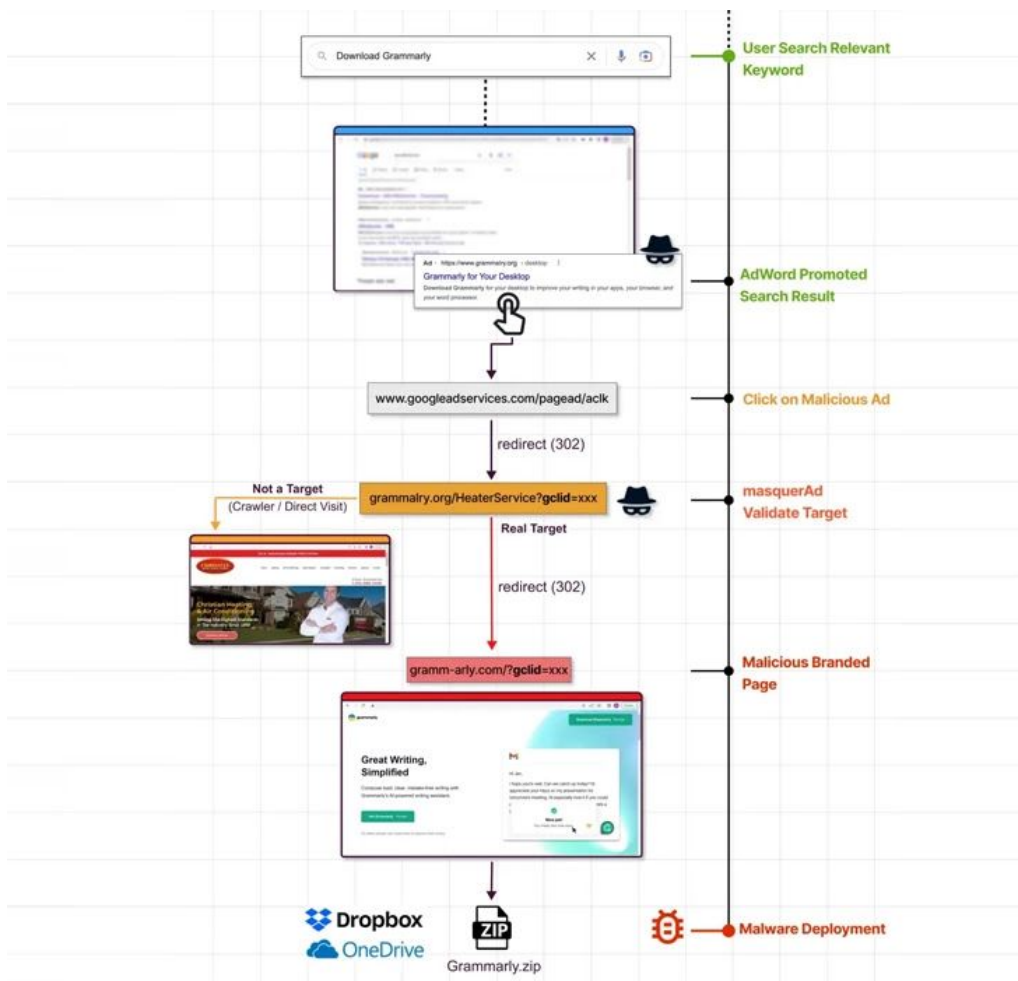
The ultimate objective of such attacks is to trick unsuspecting users into downloading malevolent programs or potentially unwanted applications. In one campaign disclosed by Guardio Labs, threat actors have been observed creating a network of benign sites that are promoted on the search engine, which when clicked, redirect the visitors to a phishing page containing a trojanized ZIP archive hosted on Dropbox or OneDrive.

"The moment those 'disguised' sites are being visited by targeted visitors (those who actually click on the promoted search result) the server immediately redirects them to the rogue site and from there to the malicious payload," researcher Nati Tal said. Among the impersonated software include AnyDesk, Dashlane, Grammarly, Malwarebytes, Microsoft Visual Studio, MSI Afterburner, Slack, and Zoom, among others.





It's also far from the first time the Google Ads platform has been leveraged to dispense malware. Microsoft last month disclosed an attack campaign that leverages the advertising service to deploy BATLOADER, which is then used to drop Royal ransomware. BATLOADER aside, malicious actors have also used malvertising techniques to distribute the IcedID malware via cloned web pages of well-known applications such as Adobe, Brave, Discord, LibreOffice, Mozilla Thunderbird, and TeamViewer. "IcedID is a noteworthy malware family that is capable of delivering other payloads, including Cobalt Strike and other malware," Trend Micro said last week. "IcedID enables attackers to perform highly impactful follow through attacks that lead to total system compromise, such as data theft and crippling ransomware." The findings also come as the U.S. Federal Bureau of Investigation (FBI) warned that "cyber criminals are using search engine advertisement services to impersonate brands and direct users to malicious sites that host ransomware and steal login credentials and other financial information."



Source: <https://thehackernews.com/2022/12/new-malvertising-campaign-via-google.html>

- Dr. Yogita Mane  
(Head of Department)

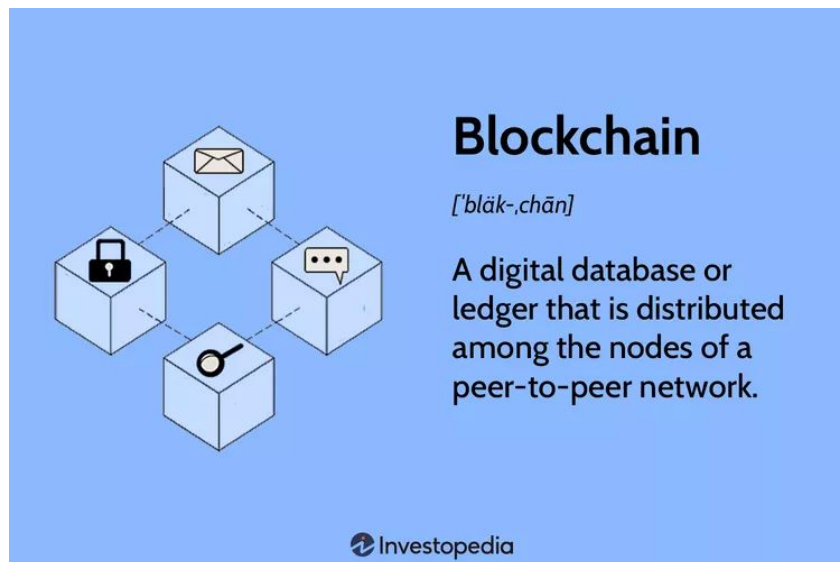
## *Blockchain Facts: What is it, How it Works, and How it can be used*

### What Is a Blockchain?

A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. As a database, a blockchain stores information electronically in digital format. Blockchains are best known for their crucial role in cryptocurrency systems, such as Bitcoin, for maintaining a secure and decentralized record of transactions. The innovation with a blockchain is that it guarantees the fidelity and security of a record of data and generates trust without the need for a trusted third party.

One key difference between a typical database and a blockchain is how the data is structured. A blockchain collects information together in groups, known as blocks, that hold sets of information. Blocks have certain storage capacities and, when filled, are closed and linked to the previously filled block, forming a chain of data known as the blockchain. All new information that follows that freshly added block is compiled into a newly formed block that will then also be added to the chain once filled.

A database usually structures its data into tables, whereas a blockchain, as its name implies, structures its data into chunks (blocks) that are strung together. This data structure inherently makes an irreversible timeline of data when implemented in a decentralized nature. When a block is filled, it is set in stone and becomes a part of this timeline. Each block in the chain is given an exact timestamp when it is added to the chain.



Source: <https://www.investopedia.com/terms/b/blockchain.asp>

- Mrs. Mudra Doshi  
(Assistant Professor)



Christmas is a festival celebrated by Christians the world over on December 25, commemorating the birth of Jesus Christ. Christmas is the celebration of love, generosity, benevolence, peace, kindness, brotherhood, and familial bonding. The word Christmas has derived from the Old English 'Cristes Maese' (Christ's Mass). Jesus Christ also called Jesus of Nazareth was the founder of Christianity.

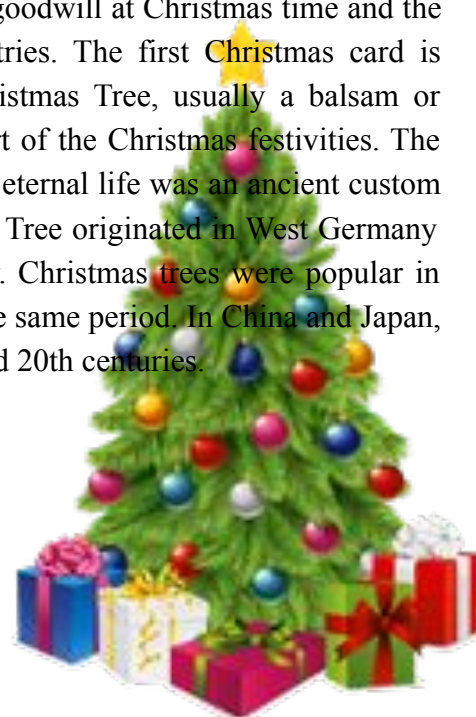
Although Christmas was not celebrated by the early Christians, there was a custom to celebrate a Saint's birth into eternal life. Thus Good Friday (Christ's death) and Easter Sunday (His Resurrection) took centre stage. Besides Christmas, the Christian Church celebrates two more birthdays – the Nativity of the Blessed Virgin Mary and the Birth of John the Baptist. According to a Roman Almanac, Christmas was celebrated in Rome by AD 336. However, in the eastern part of the Roman Empire, the festival was celebrated on January 6 commemorating the manifestation of God in both the birth and the baptism of Jesus Christ. During the 4th century AD, most eastern churches adopted the celebration of Jesus Christ's birth on December 25. The reason for celebrating Christmas on this day is probably to coincide with the Roman festival marking the "birthday of the unconquered Sun" (natalis solis invicti). December 25 was also regarded as the birth day of Mithra, the Iranian mystery God known as 'Sun of Righteousness'.

Christmas Card is usually sent by mail as an expression of goodwill at Christmas time and the practice has been followed in all English speaking countries. The first Christmas card is believed to have been designed in England in 1843. Christmas Tree, usually a balsam or douglas fir, decorated with lights and ornaments, forms part of the Christmas festivities. The use of evergreen trees, wreaths and garlands as a symbol of eternal life was an ancient custom of the Egyptians, Chinese and Hebrews. Modern Christmas Tree originated in West Germany and was introduced into England in the early 19th century. Christmas trees were popular in Austria, Switzerland, Poland and The Netherlands during the same period. In China and Japan, they were introduced by western missionaries in the 19th and 20th centuries.

Source: <http://www.stateofkerala.in/articles/christmas.php>



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- Mrs. Rovina D'Britto  
(Assistant Professor)

## ***NON- TECHNICAL ARTICLES***

### **Guru Gobind Singh Jayanti:**

Guru Gobind Singh Jayanti is being celebrated on Thursday, December 29, to mark the 355th birth anniversary as per the lunar calendar of Guru Gobind Singh, the tenth Guru of the Sikh community. One of the most inspirational figures for many people around the world, Guru Gobind Singh was not just a spiritual master but a poet, philosopher, reformer, and warrior as well whose teachings have enlightened people for many years now.

Guru Gobind Singh had four sons who were killed during his lifetime brutally. In recognition of the brave sacrifice, the Centre, on January 9, 2022, announced that the nation celebrates "Veer Baal Diwas" on December 26 every year. The day commemorates the death of Sahibzada Zorawar Singh and Sahibzada Fateh Singh at the ages of 7 and 9, respectively. One of his notable contributions is said to be in 1699, when he founded the Sikh warrior community called the Khalsa. The ninth Guru also introduced the five articles of faith of Khalsa Sikhs, popularly known as the Five Ks include kesh, kangha, kara, kaccha and kirpan. Guru Gobind Singh is also credited for the Dasam Granth, hymns of which are a sacred part of Sikh prayers. He finally finalised the Guru Granth Sahib as the eternal Guru. For the same reason, the Guru Granth Sahib is also known as 'Living Guru'.

Here are some famous Quotes from Guru Gobind Singh

- > He alone is a man who keeps his word, not that he has one thing in the heart, and another on the tongue.
- > Those who call me God, will fall into the deep pit of hell. Regard me as one of his slaves and have no doubt whatever about it. I am a servant of the Supreme Being and have come to behold the wonderful drama of life.
- > The greatest comforts and lasting peace are obtained, when one eradicates selfishness from within.



Source:

<https://www.cnbcvt18.com/india/guru-gobind-singh-jayanti-2022-history-significance-and-inspiring-quotes-15532341.htm>

- Ms. Shraddha Sandimani  
(Assistant Professor)



## ACHIEVEMENTS

# Congratulations

**CONGRATULATIONS!**

**CAMPUS DIRECTOR OF  
UNIVERSAL COLLEGE OF ENGINEERING**



**DR. J.B. PATIL**

Congratulations for achieving a second  
Doctorate Degree in Information  
Technology from Mumbai University

**CONGRATULATIONS!**



**DR. ASIR KHAN**

Congratulations for achieving a  
Doctorate Degree. May all your wishes  
come true



*Participated in Avishkar at Inter-collegiate UG level organised by University  
of Mumbai at Shah and Anchor Kutchi Engineering College  
on December 23, 2022*



*"The object of a New Year is not that we should have a new year. It is that we should have a new soul..."*  
*—Gilbert K. Chesterton*



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