



Vision

- To contrive educational and research environment to serve industry and society needs in the field of Electronics and Telecommunication Engineering.

Mission

- To enrich soft skills, ethical values, environmental and societal awareness.
- To develop technical proficiency through projects and laboratory work.
- To encourage students for lifelong learning through interaction with outside world.

BLACKWEB

The dark web is a hidden part of the internet, accessible only through specialized browsers like The Onion Router (Tor) , which provide anonymity by routing traffic through multiple servers. Unlike the surface web, dark web sites use .onion domains with randomized, changing URLs. While often associated with illegal activities like drug markets and hacking services, the dark web also supports legitimate uses, such as privacy protection, secure communication for activists, and whistleblowing platforms. Its anonymous nature makes it both a tool for freedom and a hub for illicit trade.

WHY DARK WEB ?

The dark web originated in the 1990s, developed by the U.S. government to enable secure and anonymous communication for military and intelligence purposes. In 2002, the Tor project was released to the public, allowing anyone to access the dark web anonymously. Over time, it became a platform for both legal and illegal activities, with key milestones including the rise and fall of dark marketplaces like Silk Road, which was shut down in 2013 for facilitating illegal trades.

LAYERS OF WEB



Image Courtesy : <https://systemweakness.com/dark-web-introduction-8d965a8e68e2>

- **Surface Web:** The visible web, accessible through search engines like Google, Bing, and Yahoo. Includes websites like Facebook, Google, and YouTube, making up small fraction of the internet.
- **Deep Web:** Not indexed by search engines; includes academic databases, medical records, and other private information. It's much larger than the surface web and emphasizes privacy and controlled access.
- **Dark Web:** A hidden subset of the deep web, accessible via tools like Tor. Known for illegal activities but also supports privacy for activists and journalists. Offers anonymity but poses risks such as malware and scams.

By : Alfiya and Bhakti

DID YOU KNOW ?

"The Silk Road, a notorious dark web marketplace, was pivotal in making online drug trade mainstream before it was shut down by the FBI in 2013."



How Communication Occurs Through Tor

Tor, or The Onion Router, is a free, open-source network that allows for anonymous communication. It works by routing internet traffic through a series of volunteer-operated servers called relays. When Tor is used, data is encrypted multiple times before being sent through the network. Each relay in the chain decrypts the data, processes it, and then re-encrypts it before passing it on to the next relay. This makes it difficult for anyone to track any online activity. After passing through multiple relays, your traffic eventually exits the Tor network through an exit node, which connects to the website you are trying to access. This makes it appear as though you are browsing directly from the exit node, making it difficult for anyone to identify your true location.

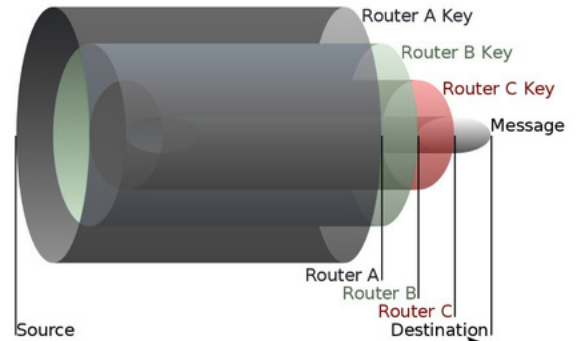
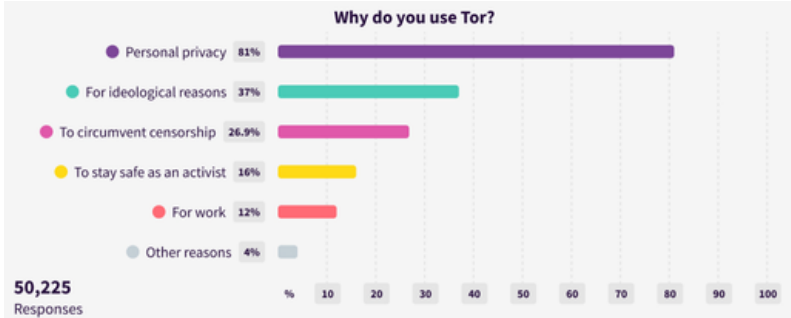


Image Courtesy :-<https://hakin9.org/slicing-the-onion-an-introduction-to-the-onion-routing/>

NAVIGATING THE TOR NETWORK AND DARK WEB: A GUIDE

The Tor network provides a layer of privacy by routing internet traffic through multiple servers. This allows users to access websites and services on the dark web, which are not indexed by traditional search engines. To navigate the dark web, users typically download and install the Tor Browser. However, navigating the dark web comes with risks, including exposure to illegal activities, malware, and scams. Users must exercise caution, use additional security measures like a VPN, and avoid sharing personal information.

By : Chinmayi and Radhika

Technological Aspects Of The Tor Router : A Guide to Anonymity

Tor utilizes a multi-layered encryption system and a network of relays to ensure that your internet traffic remains anonymous. By encrypting data multiple times and routing it through various nodes, Tor makes it difficult for anyone to track your online activities. Each connection to the Tor network establishes a new circuit, further enhancing privacy. This dynamic circuit construction prevents correlation attacks and makes it challenging to link different online activities to a single individual. Additionally Tor's network of relays is constantly changing, making it even more difficult for anyone to monitor or intercept your traffic.

By : Aditya

Dark Web Myths

- Accessing the dark web is illegal.
- You can't be tracked on the dark web.
- There's no regulation on the dark web.

Dark Web Truths

- It's legal to visit, but illegal activities are not.
- Authorities and cybercriminals can track activity.
- Dark marketplaces have their own rules.

THE ONION ROUTER VS TRADITIONAL ROUTER :

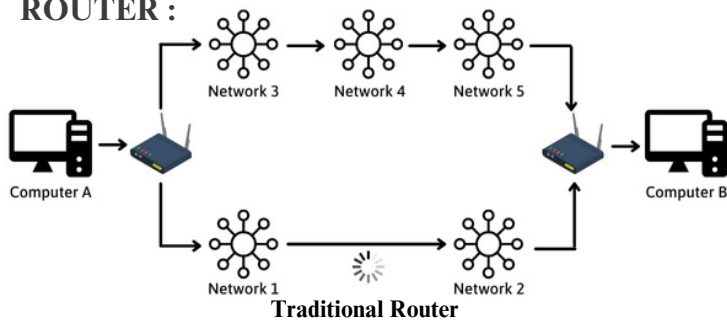


Image Courtesy :-<https://images.app.goo.gl>

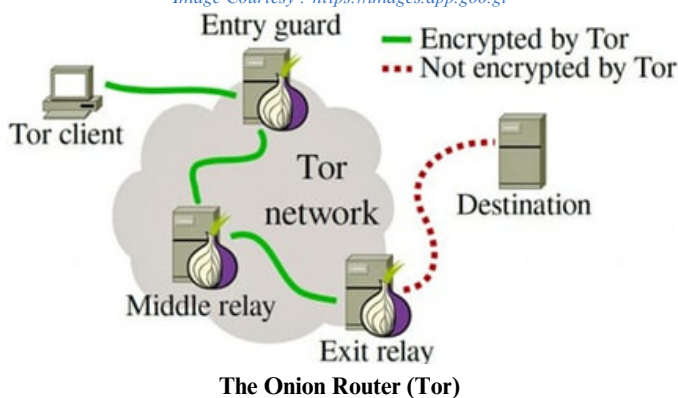


Image Courtesy :-<http://ivan-das.com>



"BEHIND THE CURTAIN: UNRAVELING THE NEET SCAM ON THE DARK WEB"

The NEET 2024 exam has become increasingly vulnerable to fraud, largely due to the darknet, a hidden part of the internet accessible via software like Tor (The Onion Router). Tor masks users' identities, making it easier for hackers and insiders to leak exam papers. These papers are then sold for cryptocurrencies like Bitcoin, which are hard to trace, often just before the exam. In addition to leaked papers, the darknet also offers cheating tools such as miniature spy earpieces and cameras, which can bypass security checks. Despite efforts to tighten cybersecurity and introduce biometric verification, the anonymity provided by Tor presents a significant challenge in preventing exam fraud.

DID YOU KNOW?

A clone of the UGC NET exam paper, sold for around Rs 6 lakh on the dark web, was later distributed on Telegram for Rs 5,000 to Rs 10,000 and that leads to cancellation of exams by education ministry .

<https://timesofindia.indiatimes.com/technology/tech-news/what-is-dark-web-and-how-it-was-used-to-leak-neet-ug-and-ugc-net-exam-paper/articleshow/111278016.cms>



Image Courtesy :-<https://theamikusqraie.com/title-an-education-scam-neet-2024/>



"OPERATION CARD SHOP: EXPOSING FINANCIAL FRAUD AND IDENTITY THEFT ON THE DARK WEB"

The FBI's Operation Card Shop in 2012 revealed the extensive scale of financial fraud and identity theft on the dark web, facilitated by Tor's anonymity. Agents infiltrated underground marketplaces, exposing how criminals used Tor to buy and sell stolen financial data, including credit card numbers, Social Security details, and bank credentials. This data, often gathered through hacking, phishing attacks, or malware, was sold in packages called "fullz," containing enough information for identity theft or financial fraud. Buyers utilized stolen information to make fraudulent transactions, apply for loans, or open credit accounts. Additionally, these dark web forums offered tools and services for committing fraud, such as malware for harvesting data or services for cloning credit cards. The operation led to the arrest of several individuals involved in financial fraud, significantly disrupting this illegal trade on the dark web.

<https://thehackernews.com/2012/06/operation-card-shop-fbi-arrested-24.html>



Image Courtesy :-<https://www.wired.com/2012/06/operation-card-shop/>

DID YOU KNOW?

US officials said the operation prevented losses of \$205m (£131m) from debit and credit cards.

By : Prapti & Vishal

ALUMINI SECTION

HRITHIK GAVANKAR

Batch - 2022

Mrithik Gavankar, a 2022 EXTC alumini , is an Associate Application Engineer at Raw Engineering. He brings a strong technical foundation and a passion for developing efficient software solutions.



1. What inspired you to pursue a career in software engineering, and how has your journey been so far?

Ans. Inspiration came from seniors and alumni, who loved to see their hardwork and discipline in making those tremendous impactful IT products and bagging high packages into the IT domain

2. How do you approach continuous learning and staying updated in the fast-paced tech industry?

Ans. "Stay on the Internet". Always watch out for the new tech being rolled out, be active on platforms like LinkedIn, Github, Twitter.. Attend tech Meetups, Hackathons, open source contribution and keep on learning new things do not get stagnant in a tech stack

3. What are some of the skills or competencies that you think are essential for a successful Developer and how do you develop or improve them?

Ans. Consistently improve on debugging and prompt engineering skills, always having a bigger picture or understanding of the task/project you are working on focus on business logic and output. Being disciplined and consistent over practicing these on regular basis can make you the best resource anytime

4. What are some of the trends or opportunities that you foresee for Generative AI soon and how do you plan to leverage them in your career?

Ans. We already are leveraging Generative AI in our day to day tasks, it helps us to deliver task Ans. We already are leveraging Generative AI in our day to day tasks, it helps us to deliver task what we observe, a automating scripts, avoid writing redundant code,etc

5. How do you ensure effective communication and collaboration when working in a team setting?

Ans. Always Be confident with what you speak and present, I having a jolly nature love to carry a smile wherever I go, always listen before you speak, break larger problems into smaller ones Involving everyone's inputs and all etc

6. How do you approach the balance between frontend and backend development? Do you have a preference, or do you enjoy both equally?

Ans. As I started my career as Frontend Developer, I mostly enjoyed only frontend development back then, but in long run both balancing is what I love to do now. Continuously you cannot switch between the two, its building/owing a feature on the frontend and as well on the backend which exists for months on one domain.

7. Could you describe your typical workday? How do you manage your time and prioritize tasks?

Ans. Starting the day with Yoga and exercise, prioritizing health then getting off to the office, checking mails and maintaining a to-do list is the first task of my day. Prioritizing office tasks depends on the priority decided by the team, impact and requirement.

8. MERN stack is popular for full stack development. How do you stay updated with the latest trends and best practices in this stack?

Ans. I stay updated with the latest trends in the MERN stack through official documentation, LinkedIn, GitHub, and attending meetups.

9. Are there any new skills or areas of knowledge you're currently focusing on developing?

Ans. Yes, currently I am also exploring Mobile App Development (Android Kotlin) and Cloud Technologies such as AWS, Kubernetes and OpenShift AI.

10. Your views on the current recession and effect of generative AI on Placement opportunities?

Ans. I believe there is always going to be competition. "You need to be the best or be nothing" is what I follow. Instead of thinking of AI as a bane, it's actually here to make our lives easier, making proper use of it is what we need to figure out.

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