



Cyber Eagles Reach Newsletter

Term: Fall
Date: December 1, 2022

Editor: Jake Graves,
Computer Science

Cyber Club Happenings

By: Asia McKissack

Last week were the final CyberEagles and WiCyS meetings for the semester. The last WiCyS meeting was November 15th, where there was a cyber security trivia Kahoot and donuts for the final meeting. On Thursday, November 17th, there was a CyberEagles meeting. This meeting was based around a CTF (Capture the Flag) activity. During the meeting, we played a game called SoarCTF, which a former student created while he was here! There was food and friendly competition. This type of activity is a great way to casually improve your cyber security abilities while also competing with your peers! Competing in CTF's is a good way to help know how much you have improved throughout the semester. If you missed the CyberEagles and WiCyS meetings, don't worry! They will be back in the Spring with more meetings and opportunities.

DCIG had a meeting on November 8th. During the meeting, they talked about network traffic analysis. OCIG had a meeting on November 17th. During the meeting, they covered post-exploitations and maintaining access with backdoors and rootkits. There is still time to attend meetings for the Cybersecurity interest groups if you haven't already! These groups are full of opportunities and tools to help you improve and get an advantage in your classes.

If you haven't been to any of these meetings and you are a student in the cyber security concentration, you are really doing yourself a disservice. The activities and lectures in these meetings are all meant to help you get an advantage in your career both at tech and after you graduate. With students who have internships, professionals in the field, and professors, these clubs are an incredibly useful way to spend your time here at tech! Be sure to stop by next semester to find out what these clubs can offer.

QR Codes

Scan this QR to make sure that you do not miss and issue!



Scan this QR code to become a member of the Cyber Eagles



Message from CEROC

As this semester draws to a close, remember to take pride in what you have accomplished. You have made it through another chapter in your life, and we cannot wait to see how far you go!

Hidden Facebook Tool

By: Assia McKissack

Facebook silently dropped a tool that allowed their users to remove their contact information, like phone numbers and email addresses, uploaded by other users. Business Insider first reported the existence of this tool. This device is offered as a way for non-users to exercise their rights under applicable laws. When users sync the contact lists on their devices onto Facebook, it's fair to point out the privacy violation because those contacts' owners didn't consent to upload their information. Now with this tool, If the information is present on Facebook or Instagram, it can be requested to be deleted from Facebook's or Instagram's address book database. However, these social media applications may still have the contact information of the people looking to remove them but in a different form. While this tool is catered toward non-users, it still allows any user to prevent their information from being shared from their friend's contact list. Where you can find this application is inside a Help Center page about friending on Facebook. Business Insider pointed out that this development is another instance of a company acknowledging the data they have shouldn't have been collected and passing the responsibility on to the users to have it removed.

Source: <https://thehackernews.com/2022/11/this-hidden-facebook-tool-lets-users.html>

Byte of Cyber History

By: Warren Proctor

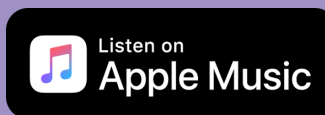
The Enigma was a German device used to create one of the more well-known codes used in history. If you are unfamiliar, it is the code created by the Germans in World War II. The breaking of this code led to several Allied victories in the Pacific since the German's shared this encryption device with the Japanese. While this victory is more commonly attributed to the work of Alan Turing, it was a Polish group that first broke the code under the leadership of a mathematician by the name of Marian Rejewski. The information wasn't handed over to Turing's secret code breaking group Ultra until 1939 when the possibility of a German invasion began growing. The reason this code was so complex and so hard to break was because of the number of permutations, or variations of arrangements, of settings available for those creating the code. The operators would set the machine's rotating wheels and plugboard to different positions predetermined by daily orders which would regularly change the cipher. The Enigma worked by producing electrical signals from a typewriter-like keyboard which was routed through a series of rotating wheels and a plugboard that worked to scramble the output of the message. This tough code was cracked in 1932-33 when Marian Rejewski figured out the wiring pattern inside the wheels of Enigma. He was able to do so through assistance by the manuals the French secret service provided. When the Germans updated their encryption the work Rejewski had completed became outdated. The torch was then passed to Alan Turing who developed a more advanced machine that deciphered messages by 1940. When faced with a tough cipher today, it is the tendency of cyber students to throw it into websites like CyberChef which makes it easy to forget the painstaking work it used to be to crack tough codes like this one.

Source: <https://www.britannica.com/topic/Enigma-German-code-device>

Our Cyber Picks

These are our top 5 cyber podcast that we think you should listen to! You can find all of these podcasts on Spotify or Apple podcast.

1. Darknet Diaries
2. Smashing Security
3. Malicious Life
4. CyberWire Daily
5. Security Now



These are all very interesting and really get the listener excited to work in cyber! For professionals and beginners alike, these all contain useful information!

Social Media Safety

By: Asia McKissack

Social media was designed to share our personal lives with others easily, but with the widespread accessibility, it has become challenging to maintain privacy. Maintaining privacy no longer means restricting what you post but understanding who outside your friend group and connections has access to your personal information. The people who can access your personal data could be the companies behind the social media platforms you use and their advertisers, partners, and connected apps. These companies can gather your personal details in ways you might not know. Don't fret; we have five ways to improve your privacy on social media platforms. The first thing is to install tracker blockers. This tool prevents websites and third parties from monitoring your movements on social media. It works by hiding your digital activity from companies giving you more privacy and freedom from tracking and ads. Another way is to customize your privacy settings. When you create a social media account, you're automatically assigned to the platform's default privacy settings. To guarantee more privacy, make it a point to review and adjust the privacy settings on each of your social media accounts. The last way is to close unused accounts. If you haven't used the account in a long time, consider deleting it to protect your privacy. This could cut down on the amount of personal information you have on the internet, making it difficult for companies to misuse that information.

Source: <https://figleaf.com/blog/perspectives/7-quick-ways-to-improve-your-social-media-privacy/>

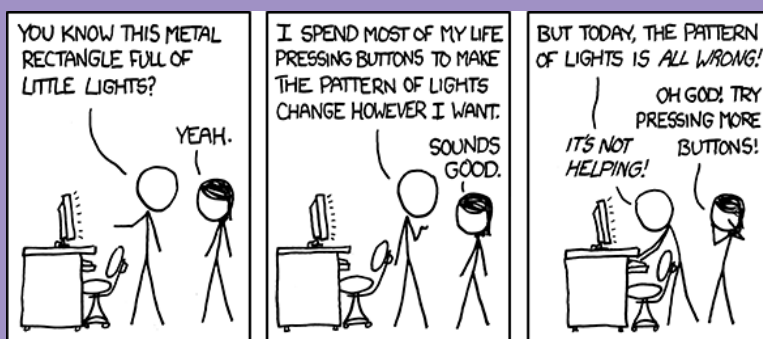
Cyber Student Highlight



Rumi Ujiie

My name is Rumi Ujiie. This December, I am graduating with a Master's in Computer Science with a concentration in cybersecurity. I am from Tokyo, Japan. I serve as a teaching assistant. It covers my tuition and I receive a monthly payment to live. Without a teaching assistant offer, I couldn't have come here so I am so grateful that I got that opportunity. For two semesters and one summer, I served as a research assistant under CEROC. Being TA and RA helped me grow to learn the content deeper. I received the Kandy Thevar International Graduate Student Scholarship this past summer and it helped me to concentrate on my research. I would like to work hard, learn as much as I can in every moment, and I would like to be a person who can help others and give opportunities in the future like I am getting from other people now. My advice for other students is if you find a person in a position that you want to be in, find out what they did to get there. I have asked many people how they accomplished things and it helped me to get there.

Fun Corner



Source: <https://xkcd.com/722/>

National Computer Security Day

By: Jake Graves

National Computer Security Day was established on November 30th 1988, and it has been observed yearly since. It was created by the Association for Computer Security to raise awareness of computer security for the general population. On this day, people are supposed to take action to be more secure online. Some examples online are changing your password, updating your computer to gain access to new security features, remove programs that you do not need anymore, back up your important data, or clear temporary files. All of these examples are great ways to be safer in your day-to-day life, but what can someone who is already very safe online do? Well, you can use these tips and help your family and friends be more cyber safe! Take these tips home with you over Christmas break and help your older relatives become more aware of threats online. Using some of these tactics can save a lot of time and money!

Source: <https://nationaldaycalendar.com/computer-security-day-november-30/>

Join Our Community

Have you joined the Cyber Eagles discord yet? There are students just like you who are ready to help you with what you need! From friendly competitions, social events, opportunities, and more! If you are interested in joining a team for an upcoming cyber event, these are the people you want on your side. Join us and come hang out!



These are members of our Cyber Team who went to Temple University Collegiate Social Engineering Capture the Flag last year. Join events and be on a team in the Cyber Eagles discord!

Cyber Student Highlight



Arvin Sanchez

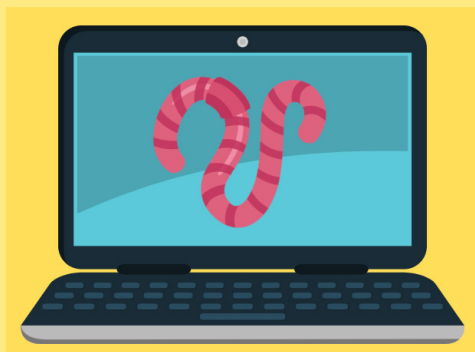
My name is Arvin Sanchez and I'm in my final year before I graduate with a Bachelor's degree in Computer Science. I grew up in Portland, Tennessee where I attended high school. Throughout my time at Tech I've had the opportunity to encounter a lot of amazing professors within the Computer Science department. I've also met my friends along the way from my classes and groups. Although I am not doing graduate research, I have done brief undergraduate work regarding machine learning models and anomaly detection under Dr. Maanak Gupta. I have also finished internships pertaining to static code security analysis and endpoint security analysis within a financial firm. After I graduate I hope to land a job in the cybersecurity workspace doing security analysis or IT infrastructure. My advice for other students is to have fun and to enjoy their time in college! Not only by joining the many groups including CyberEagles and WiCyS but by also doing activities with friends outside of the classroom. I also advise you to balance your time throughout your day. Take time to reach out to your professors or classmates during studies and to plan ahead.

What is a Worm?

By: Warren Proctor

If you are just getting started in cyber, you might have heard of a computer worm. This is a type of malware that spreads and multiplies itself from computer to computer. A worm does not need human interactor or a software program to cause damage to systems and networks which is why they are so troublesome. Spam emails and instant messages can work as a vessel to transmit a worm through an attachment. They can also be transmitted through software vulnerabilities. Once the worm is installed it can silently destroy the system without the user being aware of what is happening. This type of malware can modify, delete, and overwrite files. It can even function to inject other malicious software onto the computer or create a backdoor for a malicious actor to enter the system settings.

So, what are some signs that your computer may be infected with a worm? A good thing to do is to keep an eye on your hard drive space. If a worm's function is to replicate itself, it will begin to take up space on your hard drive and use up all free space. Make sure to also keep an eye on the speed and performance of your device. If a worm is depleting your processing power, it can lead to your computer acting sluggish or applications and programs not running properly. A final tip would be to keep an eye out for any new or missing files. Worms can delete and replace files on your computer so anything new or missing could be a sign that your device is infected. While real worms may be harmless, cyber worms can be a serious threat, so keep a sharp eye on your computer and when you receive anything suspicious to avoid getting plagued by this particular malware.



Source: <https://us.norton.com/blog/malware/what-is-a-computer-worm#>

Cyber Student Highlight



Jake Graves

My name is Jake Graves, and I am a senior here at tech majoring in Computer Science with a concentration in Cybersecurity. I plan to graduate in the fall of 2023. I work here at tech at CEROC (Cybersecurity Education Research and Outreach Center) as the social media manager alongside two other workers, Asia McKissack and Warren Proctor, to produce this newsletter, social media posts, and more! My time here at tech is something I would not exchange for anything. I have learned so much, both about cybersecurity and about how to be a good person. I really value to relationships I am able to form with my professors and classmates because of the smaller classes, and each professor seems like they really care and want to help solve issues I have. I am currently interning at a trucking company in Chattanooga called TEL (Transport Enterprise Leasing). There, I am a security analyst and have been given so many opportunities to learn new tools and abilities I would not have been able to only going to class. My advice to students is to not push things off. This may seem obvious, but I suffered a lot because I pushed a lot of personal deadlines back. While you do have time, and it really is never too late, doing things early opens more doors, so you don't get stuck with something you are just okay with. Always strive to get what you want most because you deserve it!

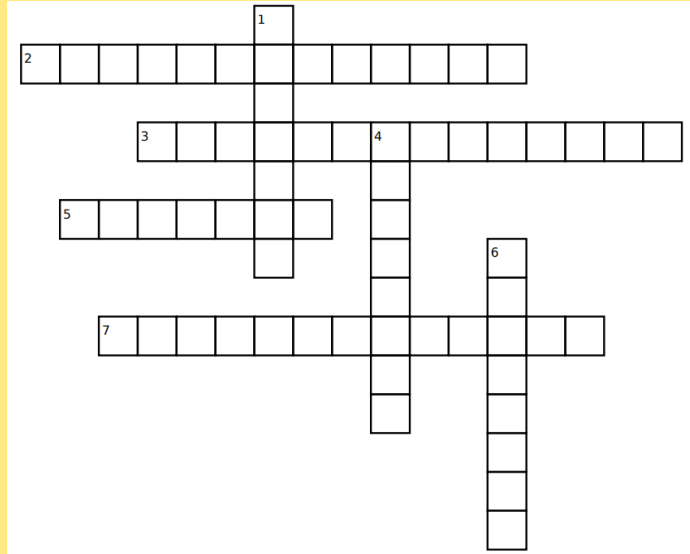
Crossword Puzzle

Down:

1. Malicious actors use social media or the corporate website to find the name of the organization's CEO or another senior leadership member.
4. An attacker hijacks a domain name server and then when the user types in the web address the DNS server redirects to the malicious website's IP address.
6. An attacker sending texts to the victim to get them to take action.

Across:

2. Malicious actors send emails to users impersonating a known brand.
3. Attackers use notifications or direct messaging to allure someone into taking action.
5. When an attacker uses the phone to call and creates a sense of urgency that makes the victim take action.
7. Malicious emails sent to a specific person



Opportunities In Cyber

James K. Goldston Cybersecurity Scholarship *(formerly the James K. Goldston INFOS-EC Scholarship): The purpose of this scholarship is to aid students in Tennessee who are pursuing undergraduate programs in computer engineering, computer science, cyber science, or cyber security. The scholarship is a one-time award of \$1,700 for one year. To be eligible, you must be planning to attend college/university and be involved in one of the previously mentioned programs. All applicants must have a GPA of 2.5 and be a full-time undergraduate at an accredited not-for-profit public or private college. More information can be found by scanning the QR code to the right!



Scholarship Application Deadline: Don't forget to apply for scholarships **before December 15**. All students must complete this application in order to be eligible for Tennessee Tech scholarships in the Fall 2023, Spring 2024, and Summer 2024 terms. Even if your scholarship repeats, you have to reapply every year. Be sure to complete your FAFSA (<https://studentaid.gov/h/apply-for-aid/afsa>) before applying for aid. If you need any help with learning how to apply, email your advisor and they will help you!

