Season 2 Episode 4 Transcript
00;00;00;00 - 00;00;23;19
Akshay Rohatgi:
I never really enjoyed programing and building apps like a lot of people I knew did. I ended up going through and learning the things in the club, learning about cybersecurity, and realized that I like fixing things and/or breaking things a lot more than making them.

Jen Langdon:
Breaking things is a lot of fun. I have to agree.

00;00;23;22 - 00;00;59;14
Hi, I'm your host, Jen Langdon, and welcome to CyberChats, a show focused on educating people of all ages about personal data care as well as cyber career skills and pathways. Together, we'll demystify the world of cyber.

Our teenage guest will talk about a very well-known competition called Cyber Patriot. Because the team he helped build has yielded such great success and competition,

00;00;59;16 - 00;01;26;13
he's passionate about giving back and helping others find a space in the cyber community. You'll enjoy hearing about the content of his blog post about Cyber Patriot, and we'll go over inside tips on how to make and maintain any high performing team.

Akshay:
So, I'm Akshay. I'm an incoming computer science student at the University of California, Irvine with a major passion for cybersecurity.

00;01;26;15 - 00;01;52;00
Through high school, I was a three-time Cyber Patriot national champion, and I'm continuing to learn and compete in the field of cybersecurity through college and hopefully make that my career field.

Jen:
Perfect. Are you ready to get started with our fast five questions?

Akshay:
Yep.

Jen:
Okay. What open source tool or free application have you found valuable?

Akshay:
Microsoft's PowerToys.

00;01;52;01 - 00;02;19;09
Jen:
PowerToys, okay. Number two, what would you make sure is installed or uninstalled on a friend or family member's device?

Akshay:
I would make sure all my friends and family have an ad blocker installed.

Jen:
Nice. I agree with that one. One thing you wish you knew before starting in the career field.

Akshay:
I wish when I started I took the time to understand underlying concepts and ideas behind the, you know, things I was working with.

00;02;19;12 - 00;02;44;27
Jen:
Interesting. Number four, most valuable skill you've learned by being involved in technology.

Akshay:
Being able to Google things and figure things out yourself.

Jen:
Number five, the most fun part of working in cyber or tech.

Akshay:
It's definitely problem solving, but not just by yourself, problem solving with your, you know, the friendships you make through competitions in the workplace or anywhere else to the community.

00;02;44;29 - 00;03;15;23
Jen:
Let's go back. So, free application you found most valuable. You said Microsoft's PowerToys. What is PowerToys?

Akshay:
It's like a suite of Microsoft tools that they developed and you can just install and it has some really nice stuff. It can do like window organization for you or you can just do like some sort of combination on your keyboard and you'll be able to, you know, look at like the exact hex of whatever your pointers on.

00;03;15;26 - 00;03;49;07
So it's just small tools that help you be a little bit more organized and they help you do things faster. And that's always appreciated.

Jen:
Oh yeah, that's like a ton of appreciated for sure. I have some questions. First, though, I'm going to backtrack a little bit. How did you get interested in cybersecurity to begin with?

Akshay:
I think my first very early introduction to cybersecurity was when I was watching movies on a very sketchy website back in maybe third or fourth grade.

00;03;49;09 - 00;04;19;17

And afterwards I had adware installed on my computer and I remember sitting down on the carpet with my dad and we were installing antivirus, trying to fix it. We didn't fix it. We had to re-image the machine, but I think that was my first production.

Jen:
Yeah, that's happened to many a person. So what I didn't think you highlighted though is that, you know, when, when we talked last you said you didn't think you'd be good at cybersecurity though when you got into it.

00;04;19;17 - 00;04;38;26
What's the story there? Because you just told in the beginning that you're a cyber patriot champion.

Akshay:
Yeah, So the way I got into it was that a better school was hosting an info session and my mom kind of just told me to go to it. I had no idea what it was. I didn't even know the name of the club.

00;04;38;26 - 00;04;57;15
I just went. But I thought it would be all programing and, you know, writing antivirus software. And I never really enjoyed programing and building apps like a lot of people I knew did. And so I knew I was interested in computers, but I didn't like that part. I thought there was something wrong with me and I wouldn't succeed.

00;04;57;21 - 00;05;23;02
But I ended up going through and learning the things in the club, learning about cybersecurity, and realized that I like fixing things and/or breaking things a lot more than making them.

Jen:
Breaking things is a lot of fun. I have to agree. You've participated in a number of cyber patriot challenges over the years, and one reason you're on our show is you posted an amazing blog and we'll have that in the show notes.

00;05;23;02 - 00;05;50;10
For all of you listeners out there, this is a really comprehensive post. So for our listeners who haven't tuned in to some of our organization's past programing or aren't even aware what cyber patriot is, can you give an explanation of this competition structure and kind of what the primary challenges the competitors face?

Akshay:
Sure. So, the defining challenge of cyber Patriot is that it's an instant response and remediation competition.

00;05;50;13 - 00;06;10;00
You're stepping into the role of a corporate incident response team that has inherited a business computer network in the aftermath of a cyber attack. During the competition, you work to figure out what happened, how the attackers get in, fixing what they did, and reversing all the changes they made, and further hardening the system to make sure it doesn't happen again.

00;06;10;02 - 00;06;27;20

Jen:
What I love about this description is it really sounds like it really puts the participants in the role of somebody who's about to go in the industry. So I think it's a great way to, you know, prepare you and segue that. But one thing I love about your blog post is how you kind of like spell out the knowledge that's required.

00;06;27;22 - 00;06;54;16
I mean, literally, you've listed in there and you listed the ways to gain that knowledge. Would you care to highlight like a couple of big ones that maybe really stand out so people can kind of get ideas of what's really required of the players to prep for this sort of event?

Akshay:
Obviously, one of the main points I talk about all the time, whenever people ask me similar question, is the operating system familiarity.

00;06;54;19 - 00;07;15;20
At the end of the day, I would say blue team competitions like this one, you know, defense companies are a little bit more difficult and are difficult to get started in because of the amount of knowledge it requires, requires a whole package of knowledge with something like ETFs. If you understand language that for example the website is coded in, you can jump in straightaway, but what blue team come to you?

00;07;15;20 - 00;07;48;06
You kind of have to understand the whole package and the entire context of what you're working with. So, for example, operating system familiarity, the challenge revolves around fixing broken systems and you having an understanding of how the operating system looks normally, how it's supposed to function, what are all the underlying mechanisms that power the authentication processes or the firewall or the antivirus, understanding what depends on what all of those things come together to give you a solid understanding and allowing you to navigate in whatever scenario a given.

00;07;48;06 - 00;08;11;04
If you're given a server to hosting a website or a file server or, you know, a remote access server and any context, you should be able to use that fundamental knowledge and understand a, how can I deal with the situation?

Jen:
Yes. So that kind of makes me think, you know, things like even the file systems, how they're organized, like, that's so basic.

00;08;11;04 - 00;08;43;06
Like what you're talking about is really in-depth knowledge. You post results of the next closest score to your team in the Linux portion of the competition, right? And they're kind of far away from your team. The next closest scores. But the average scores seemed like a world away, like on another planet. So from somebody who hasn't participated in cyber patriot, I would surmise, you know what, this competition might not be as competitive.

00;08;43;06 - 00;09;07;23

You know, if you have such a wide gap in these scores, why is there this range? Can you kind of illuminate, you know, what the other teams are not doing that your team is doing?

Akshay:
Yeah. So I want to preface this by saying and I hope it doesn't come off as arrogant, but our team is probably the best in history in terms of success.

00;09;07;23 - 00;09;37;15
Jen:
I don't think it's arrogant. I think it's probably the truth, right?

Akshay:
Yeah. And it's what the scores you saw, it's the conditions. Very competitive. People, you know, make or break their nationals chances by fractions of a point, but it's just not competitive against us. We at least in the online qualification rounds which what chart was showing the national finalists is a different game but so picture I would say, is somewhat formulaic.

00;09;37;15 - 00;10;02;03
The ideas and concepts and strategies used can be reused a lot of the time because you can apply those. If you build the strategies correctly, you can apply them to any situation they throw you in. And so we've, I think, gone the closest to cracking that formula. And that's kind of why I created the blog, because I really do think that it's important for other people to know that.

00;10;02;03 - 00;10;26;17
And I know people get a little bit discouraged with lower scores. And I think that it's important to share that knowledge. And people have told me that, you know, by sharing that knowledge can make the competition less competitive. But I think people will just find out new ways that I don't I never discover to improve further.

Jen:
You also mentioned your blog that your team members encourage you to post more about your team's tips, but you didn't.

00;10;26;17 - 00;10;55;23
So would you care to share on the podcast some of the things maybe you held back?

Akshay:
Yeah, for sure. I can give an exclusive. One thing I didn't mention was the importance of mentors and alumni connections. So the past few seasons we always ran questions against one of our friends who used to compete. He was in the also his division, so not a high school division, but like for ROTC teams.

00;10;55;25 - 00;11;15;24
And he was actually the national champion and we would just run questions against him, you know. Do you think this is a good idea? You know, if we if we did this, how'd it go, in your opinion? Since last year, we also started having team members graduating. And the really great thing about that is they would come back with their, you know, new knowledge.

00;11;15;24 - 00;11;44;06

They've been competing in college competitions, they've done internships in the industry. And that knowledge really brings a unique perspective into how we do things. So that definitely helps as well. Now, the reason I didn't put that in my blog was because I know it's more difficult to just get a great mentor or great connections straight off the bat, and I think it's was more important for students to focus on the skills that can build themselves before they reach out to a mentor.

00;11;44;09 - 00;12;07;24
But I didn't want them to get caught up on that fact that, Hey, you need a mentor to do great because you don't. But it definitely helps. Definitely got to us, our team to next level.

Jen:
I definitely see that where it's can be a key point or a key piece because that creates a culture. You know, and it creates this like funnel of knowledge into your team.

00;12;08;00 - 00;12;30;15
In a way, it kind of gives you guys like new lifeblood every year, like, Oh, look, we got this new tool. Oh, that's key here. I learn this cool new trick or whatever you can do here. I think that is a huge advantage is huge piece. And I think, you know, if you find probably the right mentor that can make magical things happen, right.

00;12;30;17 - 00;12;57;22
Coming up in the show is the part that I think is super key, not just for students, competitors and mentors. It's important to industry. The concept of training and growing a team applies from sports to workplaces. These are skills that go beyond the competition.

So there's a lot of emphasis on knowledge, not just in cyber patriot, but in the cyber community in general.

00;12;57;25 - 00;13;28;08
You need certifications to get jobs, you know what I mean? You need to take classes. You need to even understand tools or specific technologies for whatever you're going. You need to understand air, you need to understand cloud, right? Then there's a whole there's fields within that. So you need to know things. However, and I want to emphasize again this key point you made, no matter how much knowledge I think you gain, isn't necessarily always going to determine if you're going to win.

00;13;28;08 - 00;13;51;19
It's also about the teamwork and the work ethic that you apply. And that's an individual personality thing. It's not necessarily if you can learn, it's if you want to learn. So your school is one multiple cyber patriots. How do you all dial in the teamwork aspect? You know, people come and leave every year. How do you build that effective team?

00;13;51;21 - 00;14;10;02
Akshay:
Yeah, for sure. So one thing just you previously mentioned is, yeah, you can have all the knowledge and all the skill and there's I've met so many people in the competition that are ten times better than anyone on my team or me, and they're way smarter. But the teamwork falls through or the competition didn't go well for them.

00;14;10;02 - 00;14;33;14
It was a bad day. So that's definitely a really important part. And the way we come together is actually when we started our team just 3 to 4 years ago, we did it with the fact that we were trying to be the youngest team to ever win, and we took together it was three sophomores, one junior and two freshmen, and we ended up becoming the youngest team to win.

00;14;33;20 - 00;15;02;26
And we were able to keep that core team for almost three years. And when every single time that core team still has a few members going, but also whenever someone graduated, we'd almost always introduce a younger, so usually a freshman or sophomore into the team because we know that we try to recognize like raw talent and we know that if we put in the time, we can help train them and get them to a spot where they can improve and they can, you know, carry on the legacy a little bit.

00;15;03;01 - 00;15;27;19
Jen:
So you were like really investing in the future in a way of, you know, by seeing who has the talent. And I think that's a great skill also for you going in the industry as well, being able to identify people who have those abilities are key things in order to like establish teams in the future. So all in all, Cyber Patrick I think it's like really amazing.

00;15;27;21 - 00;15;52;18
So in your opinion, how could cyber Patriot be better overall?

Akshay:
So there's I learned this on my blog, so I'll talk about something there too. I think there's three main ways to do so. First, I think that the ambiguity around the primary challenge that I defined earlier is there's too much of it. I think that people don't really understand what the competition is.

00;15;52;20 - 00;16;14;10
People think it's kind of just finding really weird vulnerabilities and they get weirder every round and that's not necessarily the case. There's legitimately there's a strategy to finding things that you don't know about, vulnerabilities that you've never heard of, because at the end of the day, everything kind of follows a pattern. And three actors need to get into the system somehow.

00;16;14;10 - 00;16;35;08
So how they do it or what they do to make it easier. So I think eliminating ambiguity will make people kind of understand and kind of reduce the stigma around cyber patriot that, hey, it's just, you know, I do, you know, dancer or not. And then I think so. Page should also work on encouraging rewarding community initiatives. The community is really strong.

00;16;35;08 - 00;17;01;13
I mean, people are creating, you know, practice, you know, challenges every single day. It's being posted in the discord or—

Jen:
And to be clear, like, those challenges are like are they like images of machines that you go on practice on?

Akshay:
Yeah, like it's not exactly the same but it's meant to emulate what the actual condition is like. And so, again, practice always helps and it helps you refine the strategy, helps you improve.

00;17;01;13 - 00;17;19;14
How do you figure out how can I do better? And I think that should be more encouraging reward. But so pitch it, which will ideally create like a positive feedback loop where, you know, people are getting to work so they want to make more or and other people see that, so they want to make more. And I think recognition is a really important part.

00;17;19;14 - 00;17;44;18
Jen:
And we definitely want to, in the cyber community, recognize the positive because there is this other side to cybersecurity where the bad actors, in a way, they feel like they get rewarded for, you know, getting the hack, right, and getting money. And this is a way to really positively reward people. I totally see that as being like something that in our community we should find ways to do.

00;17;44;25 - 00;18;10;18
And it's definitely something we try to do here on CyberChats. So beyond Cyber Patriot, I think that's where we're kind of going with our conversation now, like building the community. You've done more than win Cyber Patriot multiple times. You've done nonprofit work, you've done various internships. Do you want to share with our listeners some of those experiences and I guess what they mean to you?

00;18;10;20 - 00;18;32;00
Akshay:
Yeah, for sure. So one experience I did do was I helped run an introduction to cybersecurity class for middle school and high school girls. We partnered with the National Center for Women in Technology, and there are a couple of motivating factors towards that. There was one that I have a little sister and I want her to succeed in whatever she does.

00;18;32;00 - 00;18;54;08
She probably won't do cybersecurity because she's kind of fed up of hearing it from me all the time.

Jen:
She's like, My brother stole the sunshine. There's no room for me. Totally understand.

Akshay:
And but either way, I think it's something that I see that there should be more girls in my club. I think that's something I could have worked on in helping bring more girls into the club.

00;18;54;08 - 00;19;14;07
And that was one way I could, you know, just work on that aspect. And, you know, I think cyber is already a very inclusive industry. I've seen, you know, I think it's the most inclusive industry have ever seen by far.

Jen:
At least in technology to a degree. Yeah, I totally agree.

Akshay:
I think that, you know, that should be furthered.

00;19;14;09 - 00;19;46;03
Another thing is that I just really happy to see that people don't realize that cyber security is a field like they don't realize it exists. And after seeing the before and after form responses, them feeling like, Hey, I can actually do this is actually an interesting topic. And all those people who are, you know, drawn to tech but don't want to program, I think there's a lot more than just me and, you know, getting them in to cybersecurity or I.T. or really any related field is super important.

00;19;46;03 - 00;20;08;15
Jen:
Akshay, do you have anything else you want to share with our listeners? We have a variety of people listening. There's people who are coaches in Cyber Patriot, there's players in cyber patriots, There's people who don't even know what cybersecurity is. What would be the key thing that you want them to know to answer that question?

Akshay:
Going to talk about my team a little bit.

00;20;08;18 - 00;20;29;03
So in the end of the blog post, I mentioned that I can give you all the stars in the world. Anyone can buy New Day. It's how you use them and how much time you put into them. My team put in like ungodly amounts of time. We would meet minimum every week, 3 to 4 hours. But that wasn't the extent of what we did.

00;20;29;11 - 00;20;55;07
Every day we would be working on our own, adding stuff to our checklists and game plans and scripts, you know, 1 to 2 hours every day. And there were a few things to help us with that. First was a strategy of continuous improvement. We always wanted to get ahead. We always want to be prepared for anything that it could possibly throw at us because we know that things usually go wrong during competition, even if we have the best planning in the world.

00;20;55;09 - 00;21;26;25
So if we can minimize that as much as possible, we'll be able to do well in that situation. So it means always researching new services, new system mechanisms to fix or at least optimizing our old things. And that's also another thing we try to continually improve every round we did. So what I would do as team captain was part of my job was just to walk around and see how everyone was doing, taking notes on, you know, if like my teammate was yelling about something that was not working on his machine, I'll take notes of it.

00;21;26;25 - 00;21;49;04
And then afterwards we can discuss in the next team meeting, see if we can improve. So again, fixing things that didn't work in the past and then still improving or trying to get ahead and then finally was creating detailed plans. So for our most important competitions, we would have like a one page or two page plan of, you know, an hour by hour breakdown.

00;21;49;04 - 00;22;07;17

What is someone doing ideally, you know, what is someone working on? How far will we get in this machine based on how we've seen, for example, semifinal images in the past? How many posts should we have at this point? What place should we be on the leaderboard here? And I think the importance of doing that is, first of all, those plans never work.

00;22;07;19 - 00;22;31;22
We never can stay to them, but we try. And that minimizes mistakes and minimizes other issues that can snowball and, you know, create a perfect storm. So I think planning is really important. Getting as close to the competition experience beforehand is important and just continually improving in time.

Jen:
I think those are great tips not only for cyber but for life.

00;22;31;22 - 00;22;55;23
You know, planning, always being prepared and always trying to improve and minimize the mistakes. So Akshay, thank you so much for being on CyberChats. I really appreciate the positive impact that you're trying to have on this community and what you're trying to contribute. And I hope it really multiplies as you move forward. So thank you again so much.

00;22;55;26 - 00;23;18;02
Akshay:
Yeah, for sure. The community and the competition has done a lot for me, so I'm trying to do as much as I can.

Jen:
It's really awesome.

Be sure to follow us on Instagram at @ncfcyber and sign up for updates on our website to get news about when episodes drop, when challenges open and close, and submit your original questions for our guests.

00;23;18;04 - 00;24;06;05
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