

# CAREER CONNECTIONS

**5 Cool Jobs in  
CYBERSECURITY  
(That You Might  
Have Someday!)**



# Meet the Cybersecurity Superheroes

**Online security experts** may not wear capes, but they're working hard to protect you from the bad guys—the computer hackers and criminals who want to steal your private information. These pros use technology to solve problems, innovate new solutions, and crack codes—which keeps us all safer.



THE  
**SECURITY SLEUTH**  
Nahal Shahidzadeh

Chief operations officer at Acceptto, a cybersecurity company in Portland, Oregon

**My Strengths** Pragmatic, hardworking, results-oriented

**In My Job** My team and I are working toward a world where your online data is protected by your private digital DNA. Like your real DNA, digital DNA can differentiate you and prevent bad guys from accessing your data. We create it by measuring your digital behaviors—like how long it takes you to enter a password. If you're taking longer than normal to input the "rhythm" of your password (which could happen if someone is trying to login as you), my company's technology will alert you.

**What I Like Best About My Job** There are some similarities to the technology in a spy movie. While we aren't hanging from ceilings to avoid laser lights, we are using cool technologies that mix artificial intelligence, machine learning, and behavior modeling.

**Growing Up** I was always interested in math and science, but I was not fantastic in it. I just worked hard in school!

**Pro Tip** Regardless of your interest in cybersecurity, take some classes in logic. It's the foundation of critical thinking.



THE  
**TECH TEACHER**  
Ryan Straight

Assistant professor of informatics and cyber operations at University of Arizona

**My Strengths** Curious, innovative, not afraid to try and fail

**In My Job** I teach classes on video-game development and interface design. (An interface is what humans interact with to make a machine work—like using a navigation menu or giving your phone voice commands.)

I help students understand how people interact with computers, machines, robots, and software.

**What I Like Best About My Job** I get to play with virtual reality, augmented reality, and video games—and call it work! I help my students find their passion and turn it into a career.

**Growing Up** I always loved literature, music, and art. Then, in middle school, a friend and I built a computer in a plastic storage bin and it worked. It was like a magic trick. At that point, I was sold.

**Pro Tip** Study everything you can get your hands on. It doesn't matter if it seems totally unrelated at the time. Creativity, even in technical fields like cybersecurity, is vital.

**\$6 TRILLION**  
The annual projected costs of cybercrime by 2021



## THE VIRUS DETECTIVE

Jessica Chowning

Senior security analyst at Mastercard in O'Fallon, Missouri

**My Strengths** Logical, problem-solver, technical

**In My Job** I see my job as a combination of being a guard dog and a janitor. My team and I try to make sure nothing gets in to hurt or affect our machines or our computer networks, and if that does happen, we clean up.

**What I Like Best About My Job** Tackling challenges, like finding the source of suspicious traffic or a virus. For example, I recently helped a computer owner figure out why her computer was infected. I asked her some questions about her activity, and we discovered that her machine got a virus from a flash drive, which is a really common way to infect computers!

**Growing Up** I was really into the *Harry Potter* series, and my grandmother taught me to knit just like Hermione did. I loved working with my hands and doing something by myself. That's why I also learned to bake, and why I learned to love problem-solving, which I now get to do every day!

**Pro Tip** I got my college degree in mathematics, but now there are full programs for cybersecurity degrees. There are also so many ways you can explore cybersecurity on your own. Discover what you like best through fun activities like hackathons and online challenges.

## CYBERSECURITY DOS AND DON'TS

Sneaky cyber criminals are always trying to steal your stuff. Here's how to protect yourself online.

**DO create strong passwords.** Try using "nonsense" words and a combination of numbers and special characters.

**DON'T use your real name as a screen name or username.** Cyber criminals steal accounts with these easy-to-guess combinations all the time!

**DO keep your social media posts clean and appropriate.** Try to think of it this way: Would your grandma be OK with what you're about to post? If the answer is yes, then go ahead.

**DON'T give out your full name, address, or phone number to anyone.** Cyber criminals will try to build your trust and give you a seemingly good reason to reveal your personal info. Don't be fooled: There's never a good reason!

**DO avoid public WiFi.** Or at least don't enter passwords and other sensitive information over WiFi at a coffee shop, library, or other public place. Those details could be seen (and stolen) by strangers.



300  
BILLION  
The estimated  
number of  
passwords used  
by humans and  
machines worldwide  
by 2020



## THE PASSWORDS PRO

Lorrie Cranor

Professor of computer science, engineering, and public policy at Carnegie Mellon University in Pittsburgh

**My Strengths** Problem-solver, creative, collaborative

**In My Job** I teach security and privacy courses to college students, and I conduct research into how to make security and privacy tools more usable.

**What I Like Best About My Job** I get to combine my interest in security with some of my personal passions, like quilting. I made a quilt called "Security Blanket," featuring the most stolen passwords from a video game website. When I won an award for it, I sewed a dress to match!

**Growing Up** My mother was a math professor and my father was an engineer—and they both encouraged my interest in STEM when I was a kid. My father taught me computer programming when I was in elementary school, and he let me use the computer in his research lab at work.

**Pro Tip** Cybersecurity careers require you to have technical skills and people skills. If you are interested in math and computer science and you like to solve interesting challenges, cybersecurity may be a great career for you!



## THE IDENTITY EXPERT

Sarbari Gupta

President of Electrosoft, an IT and cybersecurity firm in Reston, Virginia

**My Strengths** Optimistic, focused, exploratory, innovative

**In My Job** I specialize in identity management. That means I help make sure that people are who they say they are when they attempt to enter government buildings or log on to networks. The government uses a smart card, something like your school ID, and stores important information about you—your name, your electronic keys, even your fingerprints—in a powerful chip within the card. If you're supposed to have access to a system or building, the card lets you in.

**What I Like Best About My Job** Leading a team of experts who help our government prevent bad guys from stealing data or taking over our country's computer systems.

**Growing Up** I loved math and taking things apart to see how they worked. I discovered that breaking up big problems into smaller steps makes challenges more manageable.

**Pro Tip** Every business will need cybersecurity pros to protect their systems and information in the future. Focus on STEM subjects in school to prepare for an exciting career!

## 5 WAYS CYBERSECURITY IS LIKE GAMING...BUT BETTER!

- 1** You get to use the latest tech (or even create it!).
- 2** You get to beat the bad guys.
- 3** You get to solve fun and challenging problems.
- 4** You get to be part of a cool community, like "white hat hackers."
- 5** You get to still be around some of the smartest people—in person!