How the CyberAuto Challenge Is Developing the Next Generation of Cybersecurity Talent

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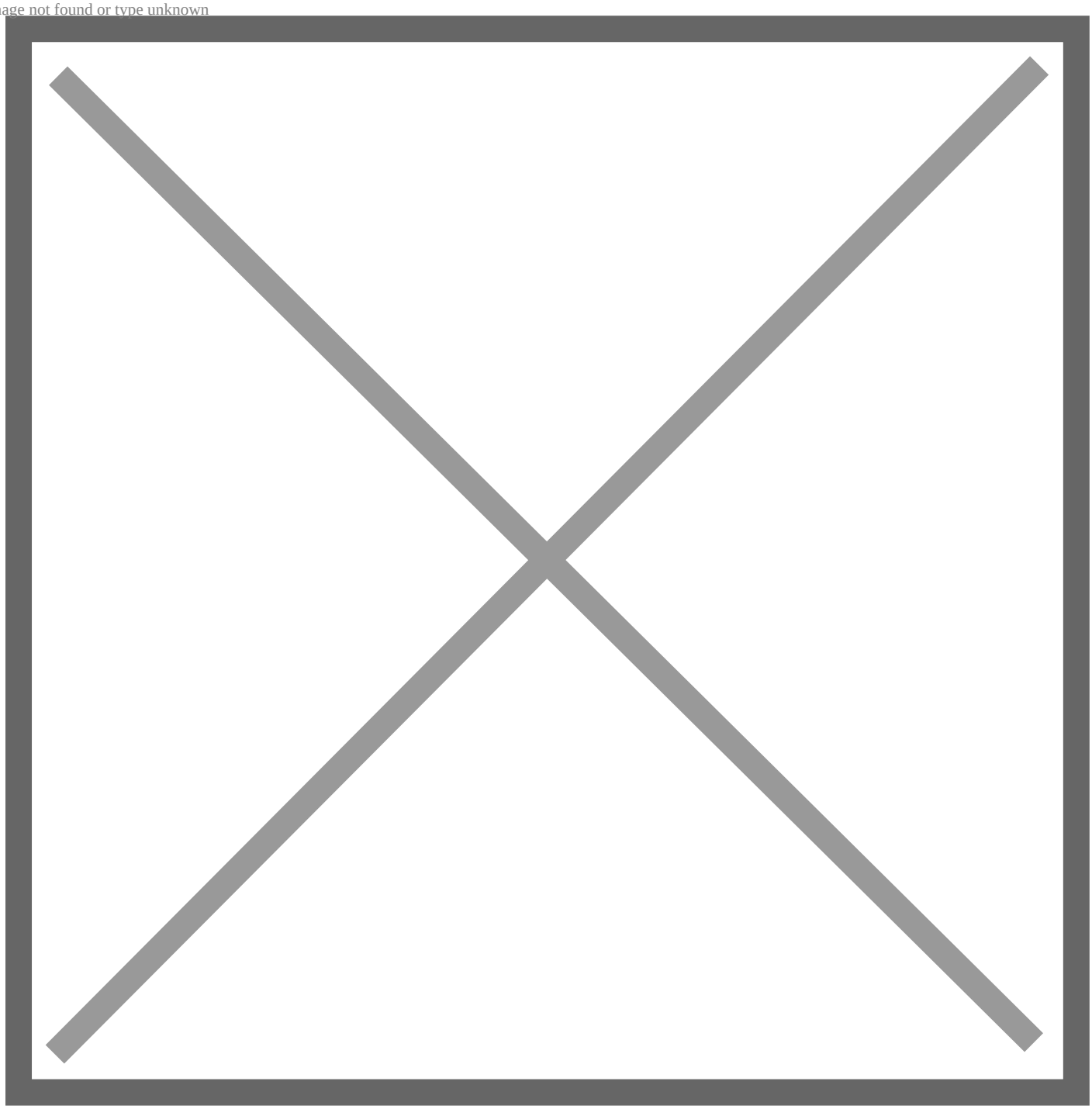
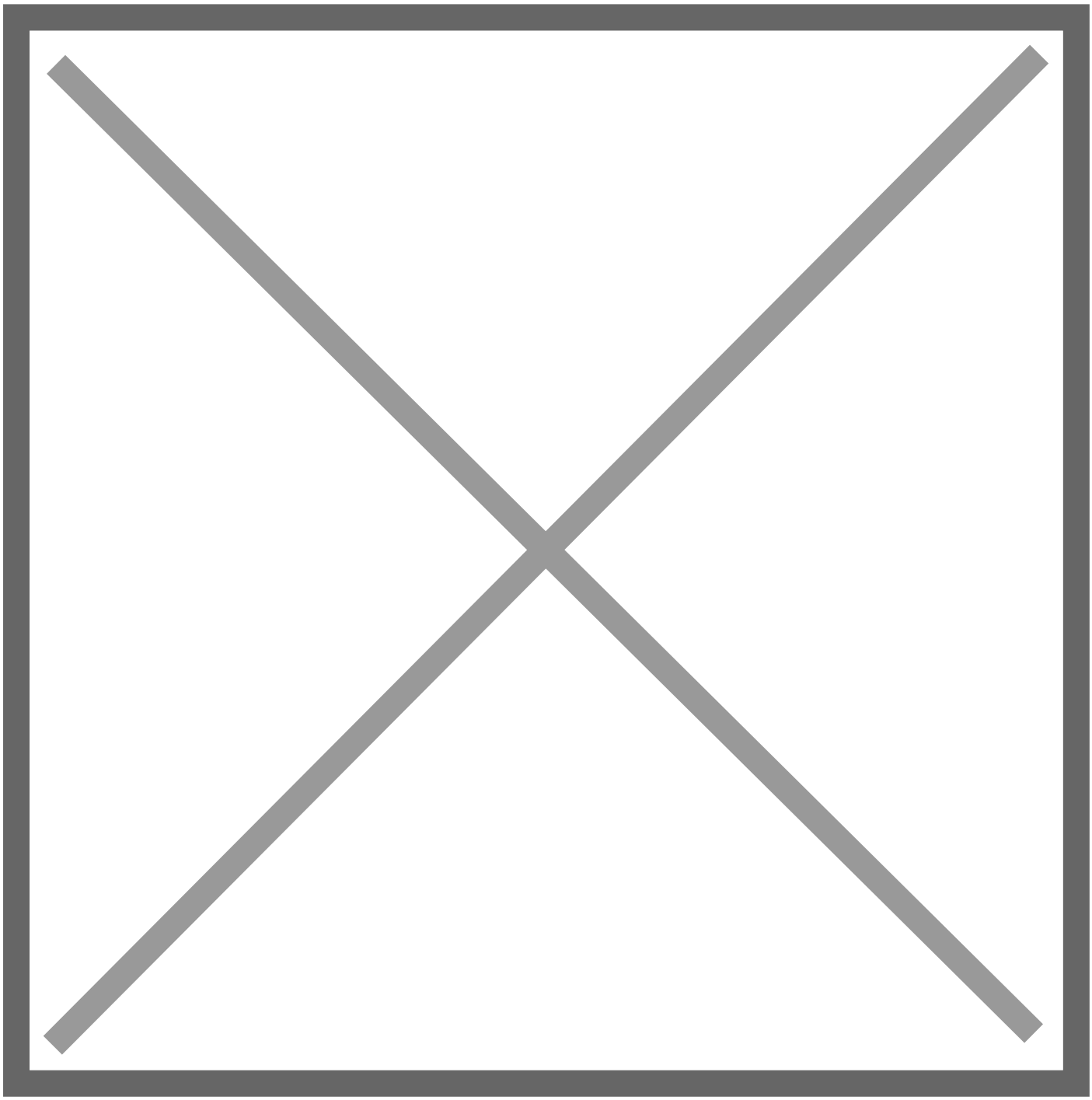


Advanced driver assistance innovations and other cutting-edge features have become integral to the driving experience. Along with these high-tech systems, the industry is also prioritizing cybersecurity — and the development of cybersecurity talent. That's why Toyota's Product Cybersecurity Group (PCG) participated in this year's CyberAuto Challenge, a workforce training event designed to kick-start student interest in automotive cybersecurity.

"One of the goals of the CyberAuto Challenge is to increase students' exposure to automotive cybersecurity," says Jade Hill, senior consultant in PCG at Toyota Motor North America. "There are many students who don't realize there are a lot of opportunities for cybersecurity engineers in the automotive industry."

The CyberAuto Challenge teams up high school, college and post-graduate students with industry professionals to learn about automotive cybersecurity. The program assigns students to company teams to work side by side with professionals like automotive engineers and security researchers.

"It's designed for students, PhD candidates and undergraduates alike, to introduce them and get them excited about automotive cybersecurity," says Hill.



About the Challenge

Open to students across the country and abroad, the Michigan-based CyberAuto Challenge has been running for 10 years. In this year's Challenge, Team Toyota included nine students and six Toyota employees.

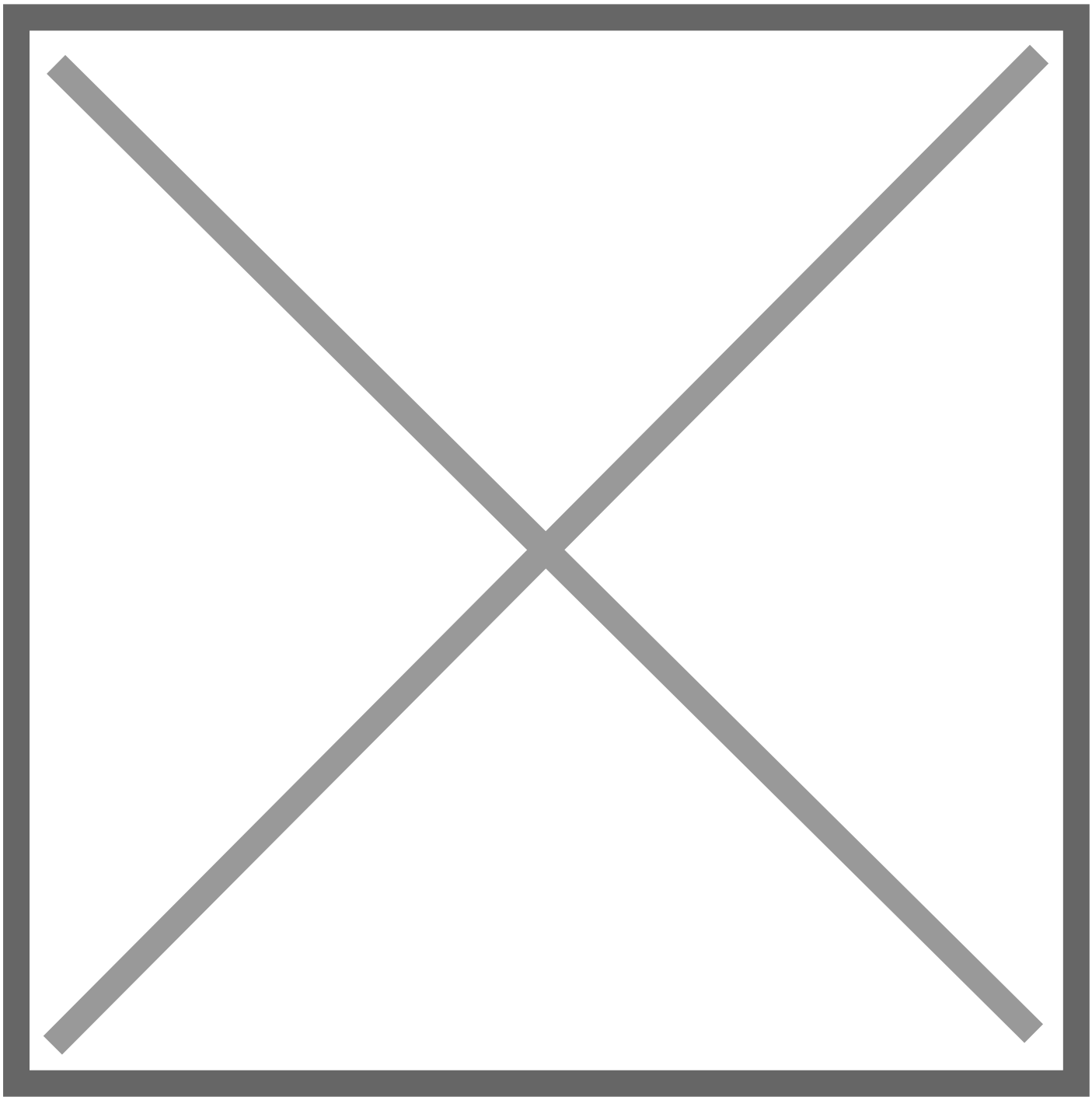
For the first three days of the five-day program, students participate in introductions, class courses and trainings on different cybersecurity techniques. Then on day four, the teams are challenged with a 24-hour assessment where they apply their knowledge to assigned vehicles. On the final day, the teams report their findings and what

they’ve learned.

Depending on their personal interests, the students paired with the Toyota team worked on different cybersecurity challenges throughout the vehicle. According to Hill, to get through the assessment, many of the students naturally started working in teams based on their knowledge backgrounds or what they had discovered.

While there are many reasons Toyota chose to be involved in CyberAuto, one of the main ones is that the program serves as a unique way to recruit new talent.

“We’re there to help them with specific questions they have,” Hill says. “But we’re also helping them learn more about automotive cybersecurity generally, as well as about what it’s like to work on these issues at Toyota.”

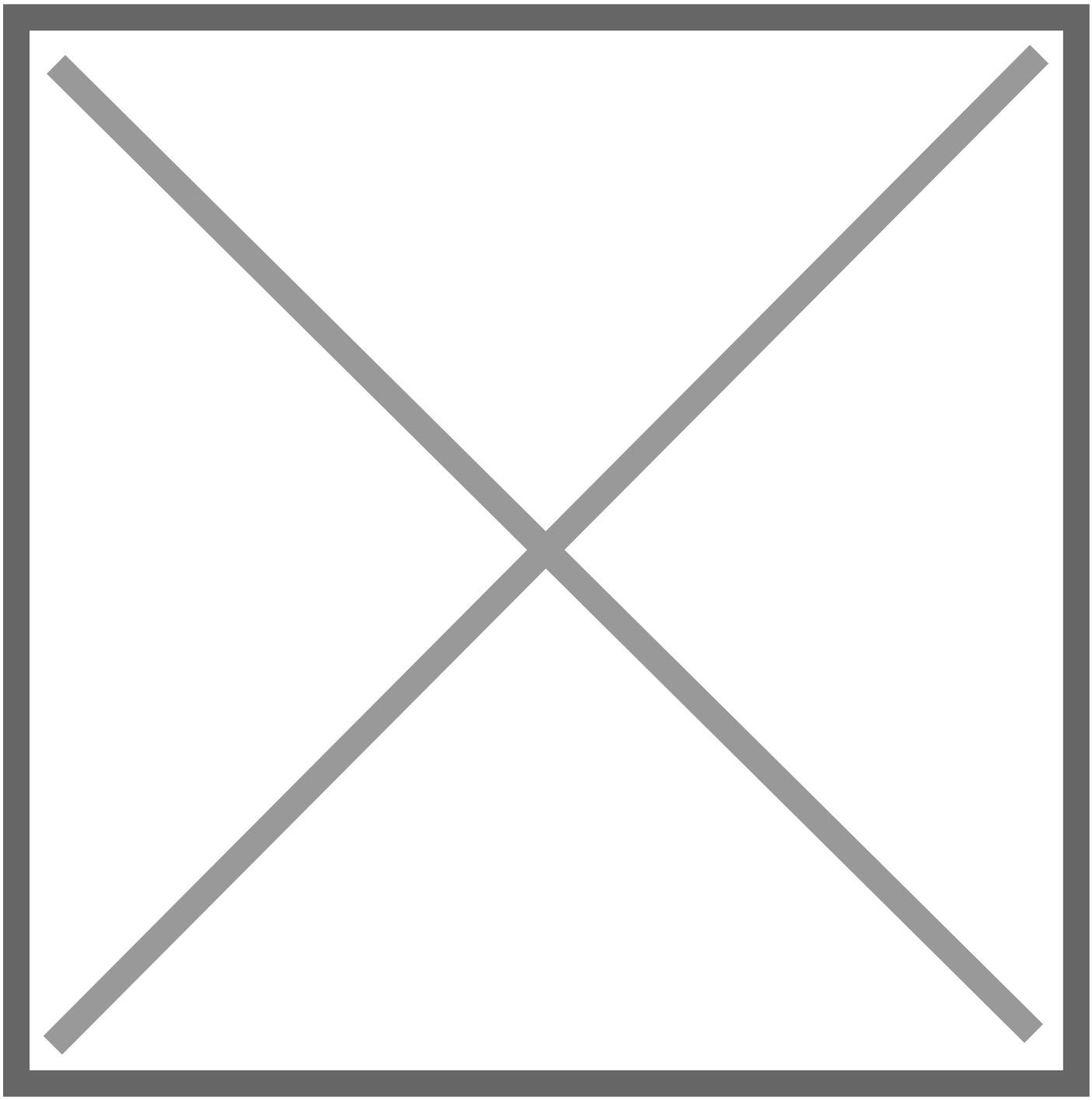


Prioritizing Early Exposure

Across the industry, vehicles are getting even smarter as companies utilize complex software to ensure a safe and more enjoyable driving experience. But, advanced technology also increases the need for precautions to ensure vehicle health and to help prevent potential risks.

“Based on where the industry is headed, we can expect there to be more connectivity, more capabilities,” Hill says. “Which means that cybersecurity will continue to be an important issue in the future.”

Hill believes that early exposure to cybersecurity through programs like CyberAuto Challenge will be key to making sure there are enough automotive cybersecurity engineers to support this important work within the industry.

“The CyberAuto Challenge helps the industry develop a talent pipeline by getting more people interested in the space, especially those who otherwise wouldn’t have access,” says Hill. “We’re finding that there is opportunity for schools to increase their curriculum to include automotive cybersecurity. It’s a bit of a niche area that’s not getting addressed as widely in STEM programs.”

“I think there’s a lot of potential in the CyberAuto Challenge, so we’d love to see it grow.” she adds. “We had such a great experience. We made connections with some fantastic students.”