CyberTruck Challenge

Connecting next generation talent with the heavy duty industry to keep vehicles secure.

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What is the CyberTruck Challenge?

- A hands-on learning and active "hacking" event focused on trucks (Class 7 & 8) and potentially some provided military vehicles

- An event where cohorts of about 18 people with different and supporting backgrounds join with some of the world's best cybersecurity trainers and experts to learn core cybersecurity skills and then practice them on a modern truck

- Excellent opportunities to work alongside and network among: OEM engineers, supplier engineers, government engineers, hackers, college students, corporate cybersecurity engineers)

- Free (hotels, food, and transportation provided) to accepted students

CyberTruck Challenge Mission

➥ Help **develop the next generation workforce** by bringing awareness, excitement, professional involvement, and practicum based training to the heavy vehicle cyber domain.

➥ Help **establish community of interest for heavy vehicle cyber** that transcends individual companies or departments and reaches across disciplines and organizations to make a more universal and experienced base of engineers and managers.
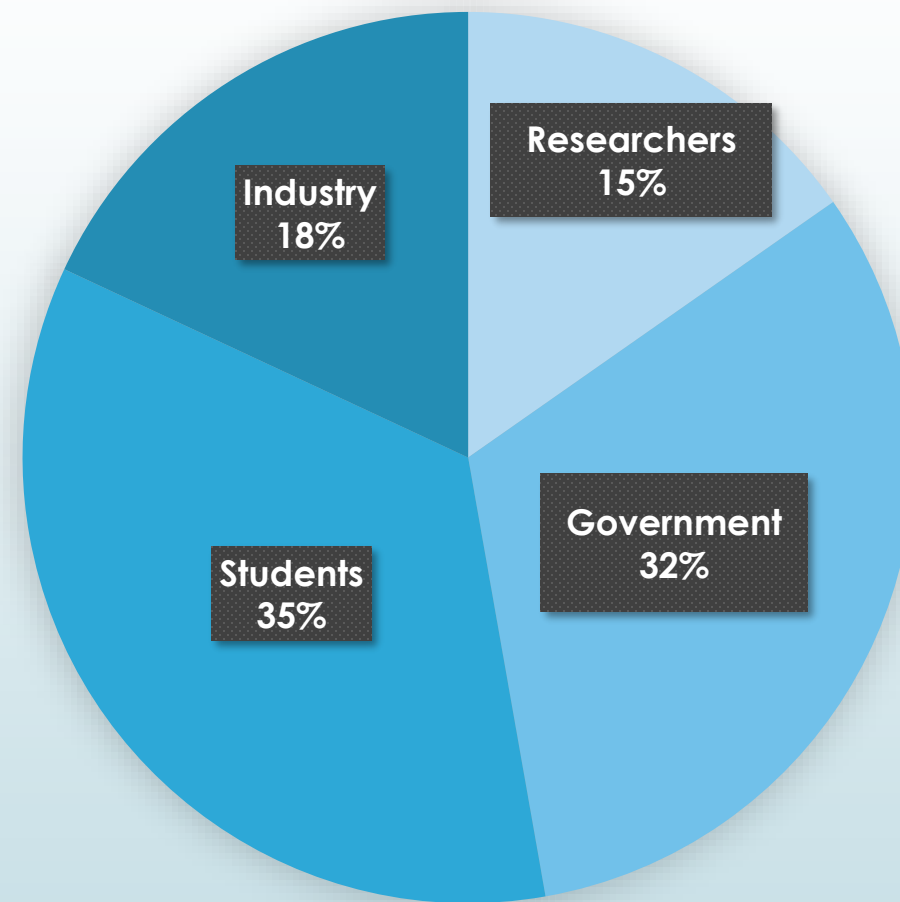

Students and mentors at the 2017 CyberTruck Challenge

Who Attends?

2017 Participant Composition

- University Students
- Security Researchers (Ethical Hackers)
- Government
  - Dept. of Defense
  - Dept. of Transportation
  - Others
- Industry
  - OEMs
  - Suppliers
  - Fleets
  - Technicians

Industry 18%

Researchers 15%

Government 32%

Students 35%

Rarely do these groups get a chance to meet, learn and do research together.

Inaugural Participation

Provided Truck for Assessment


Sent Technician to Participate

Students were from the following schools:

- The University of Tulsa
- Penn State University
- Colorado State University
- Virginia Tech
- US Military Academy at West Point
- University of Michigan – Dearborn
- Ohio State University
- Eastern Michigan
- University of Cincinnati
- Walsh College

What to the Participants Do (2017 Schedule)?

	26 June		27 June		28 June	29 June	30 June
0900-1000	Welcome & NDA Review		Software Reverse Engineering	Heavy Vehicle Systems	Assessment	Assessment	Team Brief
1000-1100	Controller Area Networks	Hardware Reverse Engineering					AAR
1100-1200							AAR
1200-1300				Conn. Sys.			Lunch
1300-1400	Lunch		Lunch				Release
1400-1500	Hardware Reverse Engineering	J1939 intro	Heavy Vehicle Systems	Software Reverse Engineering			Site Closed
1500-1600		Controller Area Networks					
1600-1700							
1700-1800	J1939 Intro		Conn. Sys.				
1800-1900	Dinner		Dinner		Dinner	Dinner	
1900-2000	MetaSploit Demo		Free		Free	Free	
2000-2200	Free						
2200-2400	Site Closed		Site Closed		Site Closed	Site Closed	
2400-							

Instruction and Seminars

Topics related to heavy vehicle protocols, like J1939 and J1708 communications were discussed.
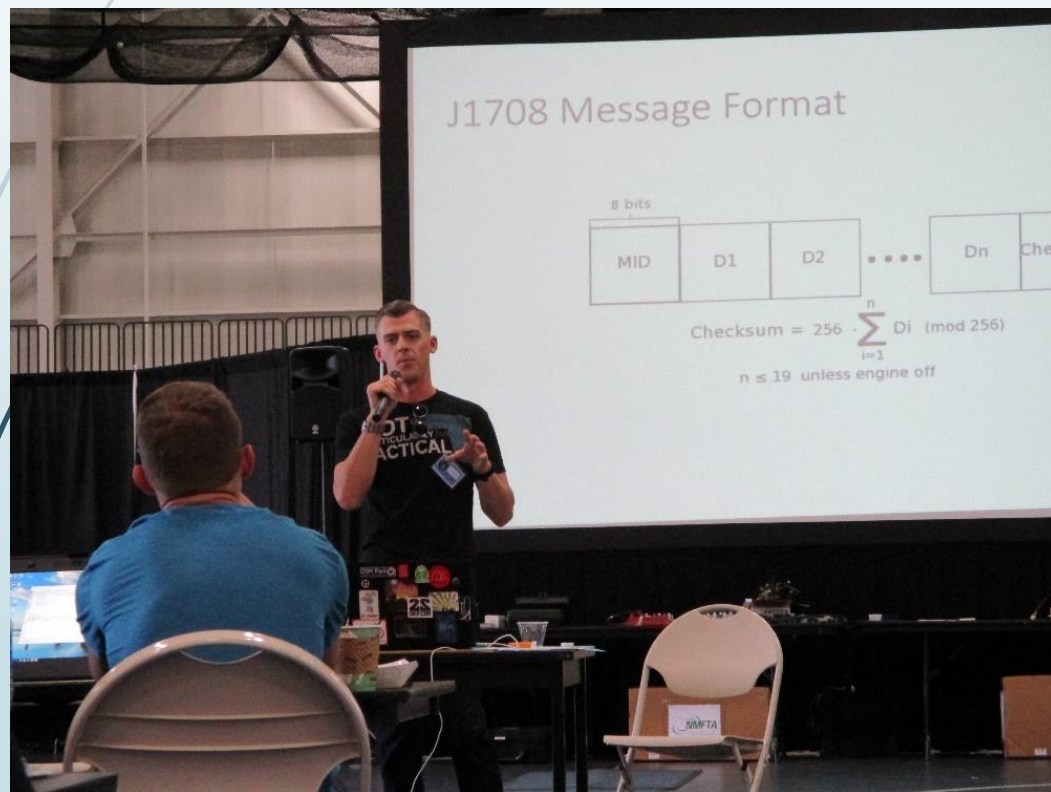
The CyberTruck Challenge was modeled after the successful SAE Battelle Cyber Auto Challenge. There were a few Cyber Auto graduates at the inaugural event.

Assessment Period

Mitch, a security researcher, explains key software features for students as they assess the heavy vehicle systems.

Matt acts as a mentor for a Virginia Tech student during the assessment period.

End of Week Presentations

Colorado State University student demonstrating his work at the end of the CyberTruck Challenge.

Big Benefits for All Attendees

- Networking for professionals.
- Students were inspired and learned a lot.
- Suppliers have clearer understanding and new ideas.
- Researchers learned new tricks and honed skills.
- Industry scouted promising talent.
- Manufactures gained unique design feedback.

Student Reactions

"The biggest benefit for me was probably talking with all the professionals in industry. Talking to them about what they did just affirmed that I want to work in the same field."
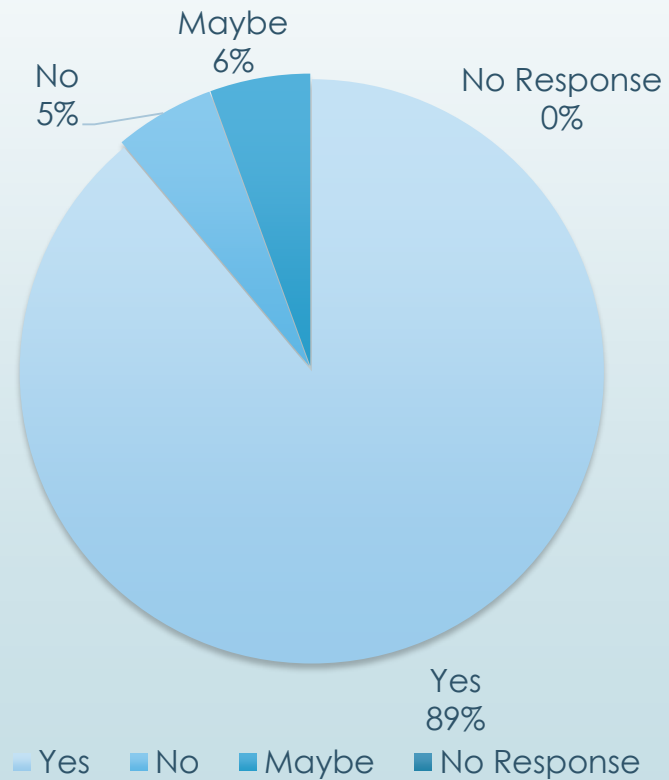
-- John Maag, University of Tulsa Electrical Engineering, Class of 2019

"This experience is amazing. I would never get an opportunity to work with an actual vehicle if it wasn't for the CyberTruck Challenge."
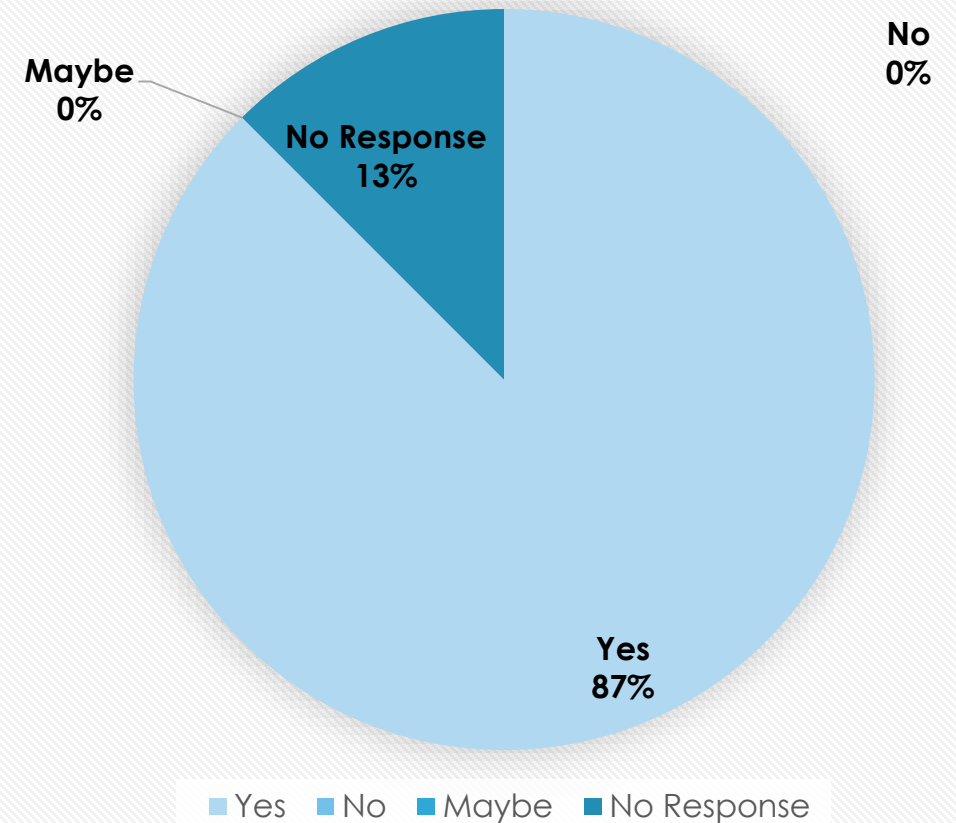
-- Subhojeet Mukherjee, Ph.D. Candidate in Computer Science, Colorado State University
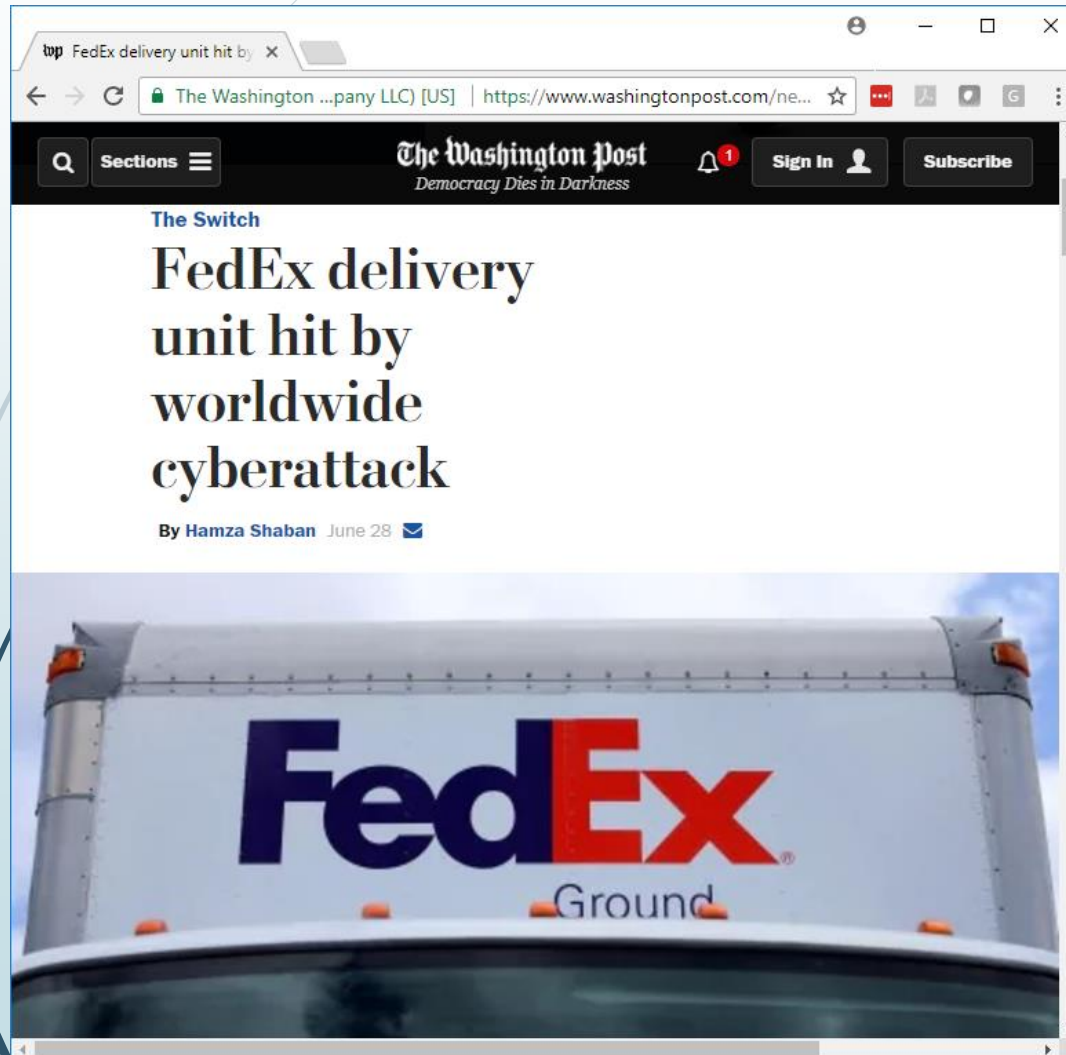
Outcomes

Has attending made you MORE likely to enter this industry?

Maybe
6%

No
5%

No Response
0%

Yes
89%

- Yes - No - Maybe - No Response

Have you found a mentor?

No
0%

Maybe
0%

No Response
13%

Yes
87%

- Yes - No - Maybe - No Response

Why the CyberTruck Challenge?

- The transportation industry faces cybersecurity threats
  - Ransomware is real – What's next?
- We have a shortage of cybersecurity talent – especially in heavy duty.
- The industry needs a forum/mechanism for creative discovery of cyber attack surfaces to be used in design processes.
- To help understand risks associated with the promising benefits of advanced technologies, like telematics, platooning, and remote over-the-air (OTA) updates.

Protections and Confidentiality

- The CyberTruck Challenge is pro-Industry
- All participants sign a Non-disclosure agreement
  - Protect Brands
- Sponsors can withhold their logo.
- Industry sponsors can redact photos and content.
- In 2018 we will not allow media on premise.
- All notes and work product are destroyed on the last day.
- Computers are reformatted.
- No social media during the event.
- No phone or photos (other than the designated camera)

US Army TARDEC & Commercial Truck Cybersecurity Challenge Sponsored by Michigan Defense Center's Protect and Grow Initiative (hereafter "CyberTruck Challenge) Terms of Participation/NDA

Version: 2017_1/kh

As a participant in the CyberTruck Challenge, Participant understands that he/she may be privy to information of a confidential and/or sensitive nature throughout the duration of the event. Participant further understands that the unauthorized disclosure of such information could cause irreparable harm to the company and/or companies to which such information is lawfully titled. With these considerations in mind, Participant hereby agrees to the following:

1. Participant understands that he/she shall not use information of a confidential or sensitive nature to further his/her personal interest, nor shall he/she violate the privacy and confidentiality of information entrusted to him/her or to which he/she may gain access, unless disclosure is otherwise required by legal authority.

2. Participant will diligently protect all confidential and sensitive information from unauthorized disclosure, including, but not limited to face-to-face discussions with outside parties and social media engagement (i.e., Facebook, Tweeting, blogging). Participant shall, at all times, abide by PROTOCOLS as separately set forth and distributed to all Participants in association with CyberTruck Challenge.

3. Participant will seek guidance from the Michigan Defense Center or an event staff member (designated as "release coach") when unsure of the correct decision regarding appropriate use, confidentiality, or access of information, and will do so BEFORE sharing any information.

4. Participant will immediately report any incidents of personal noncompliance or noncompliance of colleagues with the terms of this agreement to his/her supervisor or an appropriate event staff member.

5. The obligations with respect to disclosing and using Confidential Information, as set forth herein, are not applicable if the same is:
   (a) shown by Participant to be in the public domain at the time of receipt or that it came into the public domain thereafter through no act of Participant in breach of this Agreement or of any other party in breach of any other obligation of confidentiality owing to Discloser, or
   (b) contained in written records in Participant's files prior to the date of its receipt from Discloser, or
   (c) disclosed or used with the prior written approval of Discloser, or
   (d) demonstrated in written records by Participant to have been developed independently of disclosures made hereunder, or
   (e) lawfully disclosed on an unrestricted basis to Participant by a third party under conditions permitting such disclosure, or

Save the Date: 2nd Annual Cyber Truck Challenge June 11-15, 2018 in Warren, MI

Contact and Information

CyberTruck Challenge
is now a Michigan registered
non-profit.

Stay tuned to
www.cybertruckchallenge.org
for more information.

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