

# WELCOME TO AUTO-ISAC!

## *MONTHLY VIRTUAL COMMUNITY CALL*

June 05, 2024

**This Session will be recorded.**






*This document is Auto-ISAC Sensitive and Confidential.*

**TLP:CLEAR**



# TRAFFIC LIGHT PROTOCOL (TLP)

## VERSION 2.0 DEFINITIONS

COLOR	WHEN SHOULD IT BE USED?	HOW MAY IT BE SHARED?
<div>TLP:RED</div>  <div>Not for disclosure, restricted to participants only.</div>	Sources may use TLP:RED when information cannot be effectively acted upon without significant risk for the privacy, reputation, or operations of the organizations involved. For the eyes and ears of individual recipients only, no further.	Recipients may not share TLP:RED information with any parties outside of the specific exchange, meeting, or conversation in which it was originally disclosed. In the context of a meeting, for example, TLP:RED information is limited to those present at the meeting. In most circumstances, TLP:RED should be exchanged verbally or in person.
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Source: <https://www.us-cert.gov/tlp>

# AGENDA

Time (ET)	Topic
11:00	<b>Welcome</b> <ul style="list-style-type: none"><li>➤ Why We're Here</li><li>➤ Expectations for This Community</li></ul>
11:05	<b>Auto-ISAC Update</b> <ul style="list-style-type: none"><li>➤ Auto-ISAC Activities</li><li>➤ Heard Around the Community</li><li>➤ Intelligence Highlights</li></ul>
11:15	<b>DHS CISA Community Update</b> <ul style="list-style-type: none"><li>➤ <b>Jeff Terra</b>, Joint Cyber Defense Collaborative (JCDC)</li></ul>
11:20	<b>Featured Speaker:</b> <ul style="list-style-type: none"><li>➤ <b>Justin Montalbano</b>, President, Car Hacking Village (CHV)</li><li>➤ <b>Title:</b> An Overview of the Car Hacking Village</li></ul>
11:55	<b>Q&amp;A &amp; Closing Remarks</b>

# WELCOME - AUTO-ISAC COMMUNITY CALL!

**Purpose:** These monthly Auto-ISAC Community Meetings are an opportunity for you, our Members & connected vehicle ecosystem Partners, to:

- ✓ *Stay informed of Auto-ISAC activities*
- ✓ *Share information on key vehicle cybersecurity topics*
- ✓ *Learn about exciting initiatives within the automotive community from our featured speakers*

**Participants:** Auto-ISAC Members, Potential Members, Strategic Partners, Academia, Industry Stakeholders and Government – *the whole of the automotive industry*

**Classification Level:** Slides are at **TLP:CLEAR** and on our [website](#). Discussions are **TLP:GREEN** & may be shared across Auto-ISAC Community, “off the record”

**How to Connect:** For further info, questions or to add other POCs to the invite, please contact us!  
([sharmilakhadka@automotiveisac.com](mailto:sharmilakhadka@automotiveisac.com) )





# ENGAGING IN THE AUTO-ISAC COMMUNITY

## ❖ Join

- ❖ If your organization is eligible, apply for Auto-ISAC Membership
- ❖ If you aren't eligible for Membership, connect with us as a Partner
- ❖ Get engaged – *“Cybersecurity is everyone's responsibility!”*

## ❖ Participate

- ❖ Participate in monthly virtual conference calls (1<sup>st</sup> Wednesday of month)
- ❖ If you have a topic of interest, let us know!
- ❖ Engage & ask questions! *“Cybersecurity is a Team Sport!”*

**31**  
OEM Members

**21**  
Navigator  
Partners

## ❖ Share – *“If you see something, say something!”*

- ❖ Submit threat intelligence or other relevant information
- ❖ Send us information on potential vulnerabilities
- ❖ Contribute incident reports and lessons learned
- ❖ Provide best practices around mitigation techniques

**49** Supplier &  
Commercial  
Vehicle Members

**20**  
Innovator  
Partners

Membership represents **99%**  
of cars and trucks on the road in  
North America

Coordination with **26**  
critical infrastructure ISACs  
through the National Council of  
ISACs (NCI)

# 2024 BOARD OF DIRECTORS

*Thank you for your Leadership!*



**Kevin Tierney**  
*Chair of the  
Board of the Directors*  
**GM**



**Josh Davis**  
*Vice Chair of the  
Board of the Directors*  
**Toyota**



**Stephen Roberts**  
*Secretary of the  
Board of the Directors*  
**Honda**



**Tim Geiger**  
*Treasurer of the  
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**Oliver Creighton**  
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**Andrew Hillery**  
*Chair of the CAG*  
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**Amine Taleb**  
*Chair of the SAG*  
**Harman**



**Maryann Combs**  
**Polaris**



**Bob Kaster**  
**Bosch**



**Brian Witten**  
**Aptiv**

# AUTO-ISAC MEMBER ROSTER

## AS OF JUNE 5, 2024

Highlight = New Active Members

79 MEMBERS + 2 PENDING

Aisin	Ferrari	Magna	Rivian
Allison Transmission	Flex	MARELLI	SiFive, Inc.
Amazon	Ford	Mazda	Stellantis
American Axle & Manufacturing	General Motors	Mercedes-Benz	Stoneridge
Aptiv	Geotab	Mitsubishi Electric	Subaru
AVL List GmbH	Harman	Mitsubishi Motors	Sumitomo Electric
BMW Group	Hitachi (Astemo - Affiliate)	Mobis	thyssenkrupp
BorgWarner	Honda	Motional	Tokai Rika
Bosch (ETAS - Affiliate)	Hyundai	Navistar	Toyota (Woven - Affiliate)
Bose Automotive	Infineon	Nexteer Automotive Corp	Valeo
ChargePoint	Intel	Nissan	Veoneer
CNH Industrial	Jaguar Land Rover	NXP	Vitesco
Continental (Elektrobit - Affiliate)	JTEKT	Oshkosh Corp	Volkswagen (Cariad - Affiliate)
Cummins	Kia America, Inc.	PACCAR	Volvo Cars
Daimler Truck	Knorr Bremse	Panasonic (Ficosa - Affiliate)	Volvo Group
Dana Inc.	KTM	Phinia	Waymo
Deere & Company	Lear	Polaris	WirelessCar
Denso	LG Electronics	Qualcomm	Yamaha Motors
e:fs TechHub GmbH	Lucid Motors	Renault SAS	ZF
Faurecia	Luminar	Renesas Electronics	

Pending: IAV, Zoox

# AUTO-ISAC BUSINESS UPDATES AND EVENTS

- **Community Call:** Wednesday, **July 10, 2024 (Rescheduled from July 3<sup>rd</sup>)**, **Time:** 11:00 – 12:00 p.m. ET **TLP:GREEN** **Speaker:** Richard Hayton, Chief Strategy and Innovation Officer, Trustonic **Title:** “Time for TEEs. What They Are, and Why They Have Become a Key Technology for Automotive”.
- **2023 Annual Report** **TLP:CLEAR** available to Auto-ISAC Community on our [website](#).
- Auto-ISAC [Community Website Survey](#) due June 14<sup>th</sup>. Please provide your feedback.
- Auto-ISAC **TLP:CLEAR** **8th Annual Cybersecurity Summit** will be held October 21 – 24, 2024 in Detroit, Michigan. Agenda details and registration can be found [here!](#)
- **LAST CALL:** Auto-ISAC's **TLP:CLEAR** **2nd Annual Auto-ISAC European Cybersecurity Summit** will be held June 12 – 13, 2024 at [BMW Welt](#) in Munich, Germany. Agenda details and registration can be found [here!](#)



# 2024 AUTO-ISAC EUROPEAN CYBERSECURITY SUMMIT

SUSTAINING THE PRESENT – SECURING THE FUTURE

# AUTO-ISAC SUMMIT

**2024 Auto-ISAC Cybersecurity Summit**

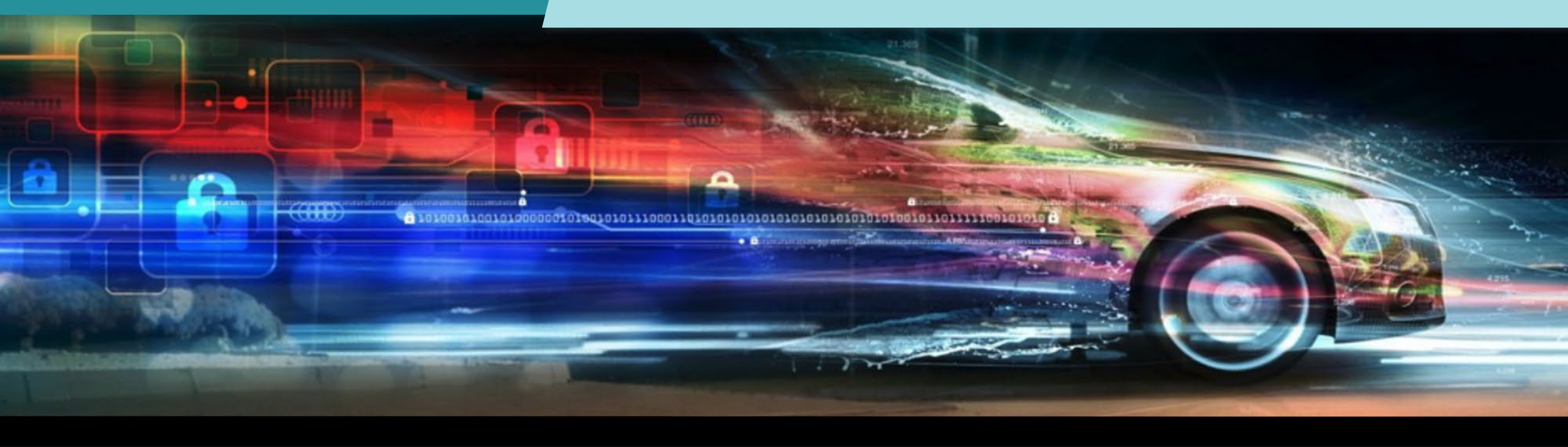
**October 22-23 | MGM, Detroit, MI**

**In-person & Virtual**

**[Information and registration](#)**







# **AUTO-ISAC INTELLIGENCE HIGHLIGHT**

## **RICKY BROOKS, INTELLIGENCE OFFICER**

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**TLP:CLEAR**



# AUTO-ISAC INTELLIGENCE

- Know what we track daily: subscribe to the DRIVEN; **TLP:GREEN** Auto-ISAC 2024 Threat Assessment was released March 21; we welcome your feedback.
  - **Send feedback**, intelligence, or questions to [analyst@automotiveisac.com](mailto:analyst@automotiveisac.com)
- Intelligence Notes
  - Geopolitical tensions involving Russia, China, North Korea, and Iran remain **high** with Russia-Ukraine and Israel-Hamas in crises ([Russia-Ukraine](#) <sup>1 2</sup>, [Israel-Hamas](#) <sup>3 4</sup>, [Iran](#), [China](#) <sup>5 6 7</sup>, [North Korea](#) <sup>8</sup>)
  - Ransomware <sup>9 10</sup> Groups Targeting Automotive: [8Base](#), [Akira](#), [Black Basta](#), [BlackSuit](#), [Hunters International](#), [LockBit 3.0](#), [Medusa](#), [Play](#), [Underground](#)
  - **Other Cybercrime Targeting Automotive:** Offering stolen data, enterprise hacking tools, and API and cloud account keys for sale; phishing website disguised as automotive company login page.
  - **Notable Vehicle Research:** Printed stop sign on T-shirt ([Link](#)); Invisible Optical Adversarial Stripes on Traffic Signs ([Link](#)); Infrared Adversarial Car Stickers ([Link](#)); Voltage Glitching ([Link](#), [Link](#)); Accelerated Aging to Expose On-Chip Secrets ([Link](#)); Compromising eMMC ([Link](#)); Using Inertial Measurement & GPS data for Reverse Engineering ([Link](#)); Employing Python and ChatGPT for Security Research ([Link](#)).
  - **Notable TTPs:** Exploiting security gateway, Linux kernel, Google Chromium V8 vulnerabilities ([Securityaffairs](#), [CISA](#)); Abusing VMware ([Medium](#)); exploiting Foxit PDF vulnerability ([Check Point](#)); **Not Cyber** - Cutting EV charging station cables ([NBC Bay Area](#)); **Notable Tools:** Log4Shell\* ([Help Net Security](#)); Gipy ([Broadcom](#)); IconJector ([GitHub](#)); CLOUD#REVERSER ([Securonix](#)); CrushFTP Exploit ([Darkreading](#)).



# AUTO-ISAC COMMUNITY MEETING

## Why Do We Feature Speakers?

- ❖ These calls are an opportunity for information exchange & learning
- ❖ Goal is to educate & provide awareness around cybersecurity for the *connected vehicle*

## What Does it Mean to Be Featured?

- ❖ Perspectives across our ecosystem are shared from Members, government, academia, researchers, industry, associations and others.
- ❖ Showcase a rich & balanced variety of topics and viewpoints
- ❖ *Featured speakers are not endorsed by Auto-ISAC nor do the speakers speak on behalf of Auto-ISAC*

## How Can I Be Featured?

- ❖ If you have a topic of interest you would like to share with the broader Auto-ISAC Community, then we encourage you to contact us!

**30+**  
*Featured  
Speakers to  
date*

**7** *Best  
Practice  
Guides  
available on  
website*

**2000+**  
*Community  
Participants*





## FEATURED SPEAKER

*This document is Auto-ISAC Sensitive and Confidential.*

**TLP:CLEAR**



# MEET THE SPEAKER



Justin Montalbano

Justin is an accomplished leader, adept hacker, and skilled instructor with over a decade of experience in the field of security. He holds comprehensive expertise in various aspects of security such as testing, attacking, defending, developing, and minimizing exposure. Justin's insatiable curiosity drives him to eagerly embrace new security challenges.

Furthermore, he has conducted training courses on software defined radio (SDR) and remains actively involved in researching cutting-edge wireless technologies including RFID/NFC, sub-GHz, and GNSS. Justin is committed to nurturing security talent and guiding beginners in their journey by organizing and hosting impactful events. He's provided thousands of attendees with invaluable hands-on experience with computers, mobile devices, networks, and automobiles.

**DELPHI**

• **APTIV** •

**M** UNIVERSITY OF MICHIGAN





# An Overview of the Car Hacking Village (CHV)



[carhackingvillage.com](http://carhackingvillage.com)

[@carhackvillage](https://twitter.com/carhackvillage)

**Justin Montalbano**  
President





# About Me

**Justin Montalbano**

Solutions Architect, Block Harbor | President, Car Hacking Village

**Block  
Harbor.**  
Cybersecurity





# Agenda

1. What is DEFCON?
2. What is the Car Hacking Village (CHV)?
3. Previous CTF Challenges / Exercises
4. Previous Years Badges
5. 2024 Car Hacking in Wonderland
  - a. CHV Logistics
  - b. CHV Kids
  - c. CHV 101
  - d. CHV Badges
  - e. CHV CTF
6. Car Hacking Village Sponsorship
7. How to get involved?
8. Contact Details





# What is DEFCON?

- The world's largest and most renowned hacker convention
- Talks on a wide range of security related topics across all industries (automotive, aerospace, information security, industrial controls, maritime, IoT)
- Villages, SkyTalks and the "Wall of Sheep"
- Prestigious Capture the Flag competition
- One-of-a-Kind Badge Community

[defcon.org](https://defcon.org)





# What is the Car Hacking Village?

- Automotive cybersecurity education and training
- Sponsorship funded
- Founded in 2015 by Robert Leale of CanBusHack
- 501c3 Non-profit Organization
- ***Locations:*** US, Japan, UK, Hong Kong, and Philippines





# What is the Car Hacking Village?

- Automotive Capture the Flag (CTF) Event
- Badge (custom designed PCBs)
- Hands-On Access to Vehicles and Modules





# Where is the Car Hacking Village?

**H2HC**



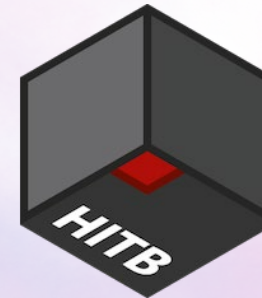
**BO SIDES**



**black hat**



**ROOTCON**



# Previous CTF Challenges / Exercises

Honda Key Fob 2022 CVE





# Previous CTF Challenges / Exercises

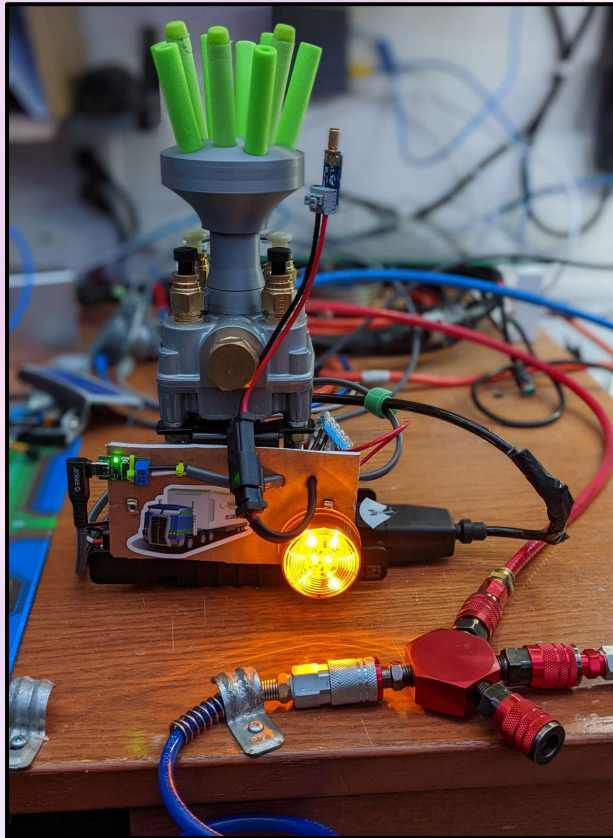
Semi-Truck Hacking





# Previous CTF Challenges / Exercises

## Air Brake Air Darts





# Previous CTF Challenges / Exercises

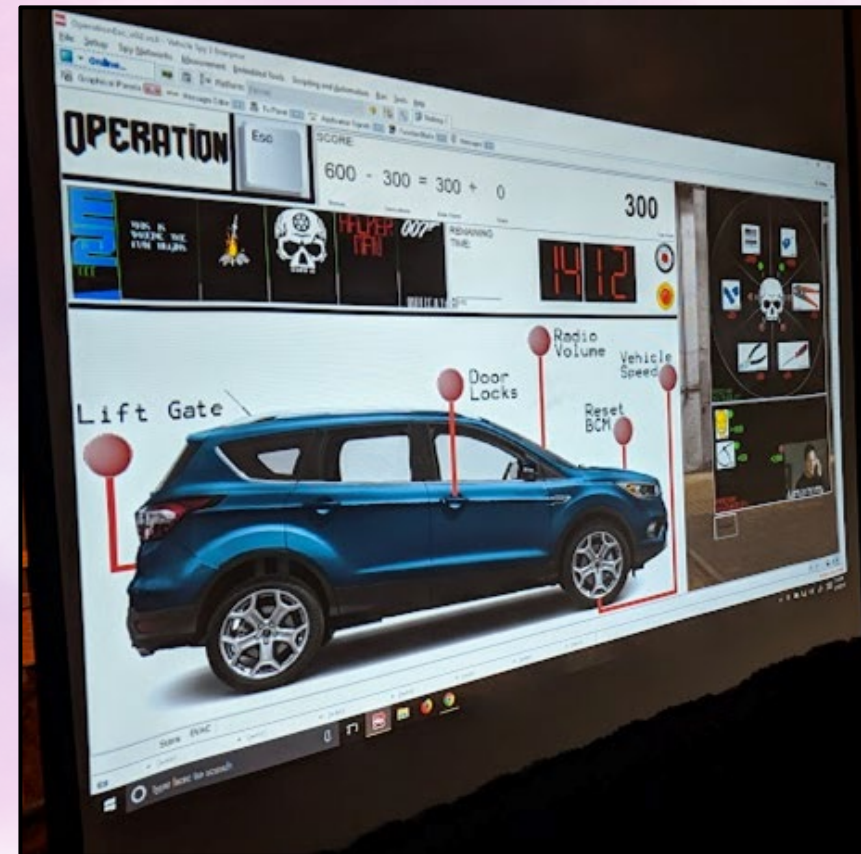
## Tesla in the Loop (TIL)





# Previous CTF Challenges / Exercises

## Escape Challenge





# Previous CTF Challenges / Exercises

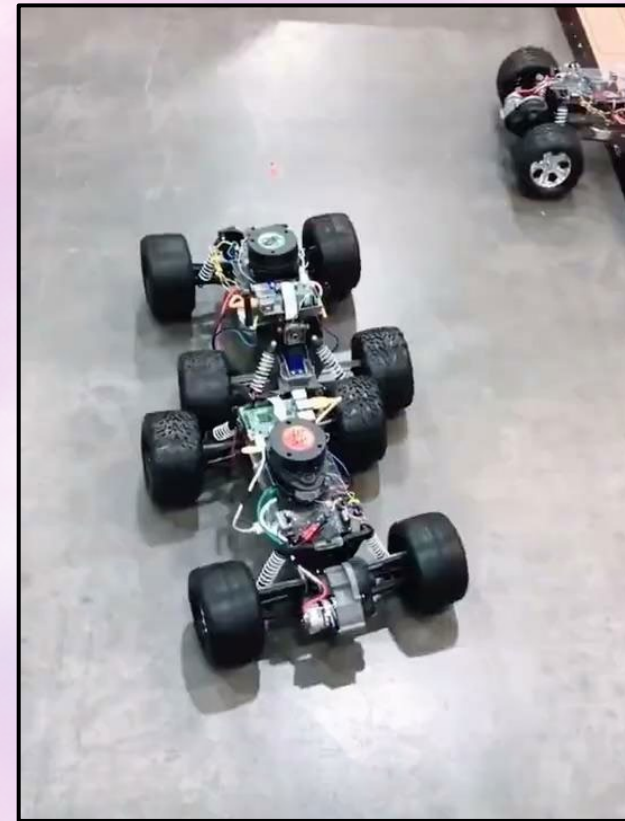
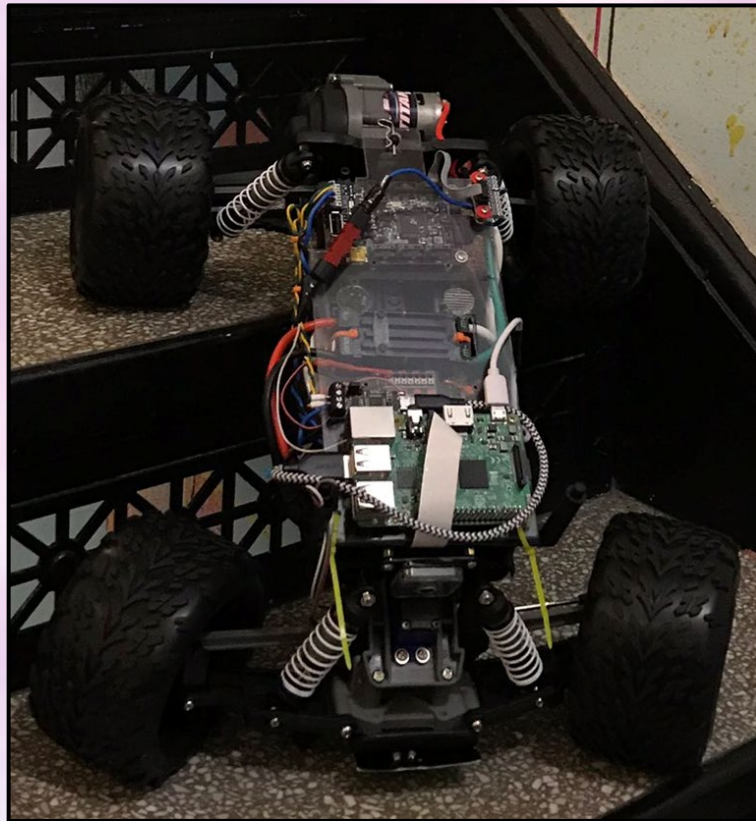
## Head Unit Hackathon





# Previous CTF Challenges / Exercises

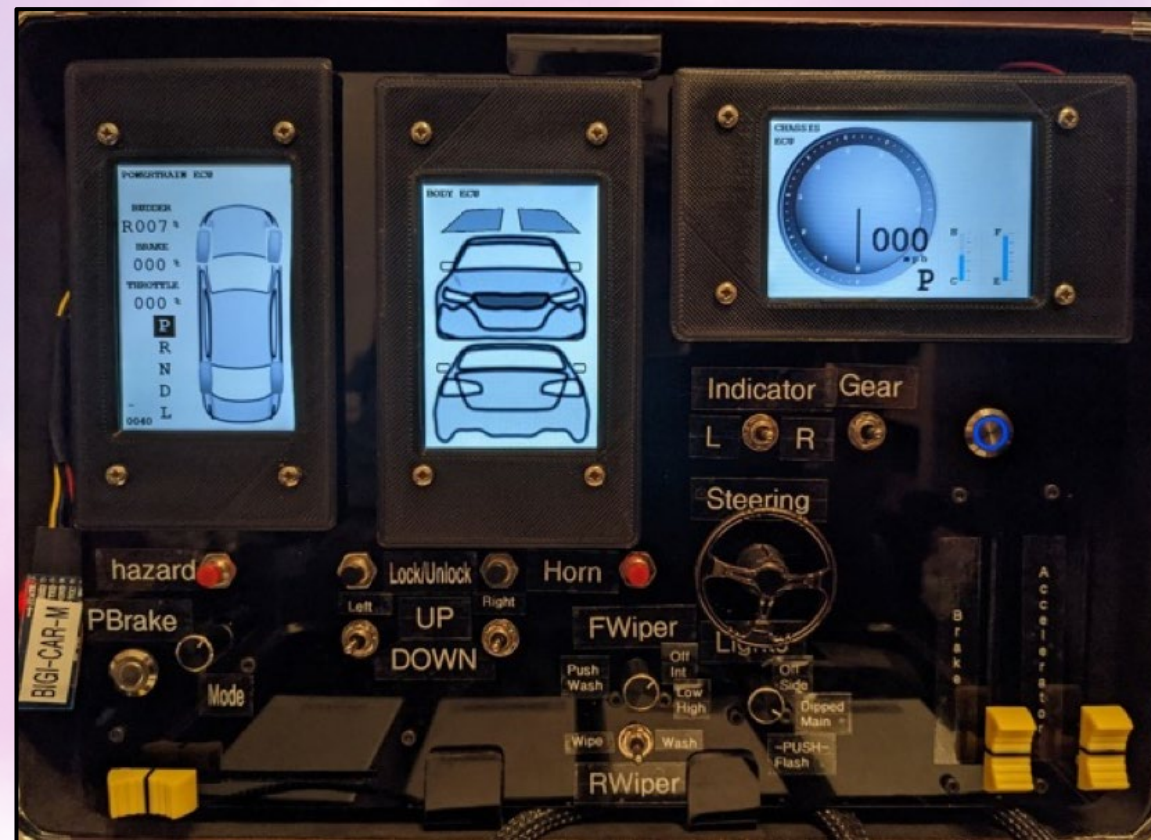
RoboCars





# Previous CTF Challenges / Exercises

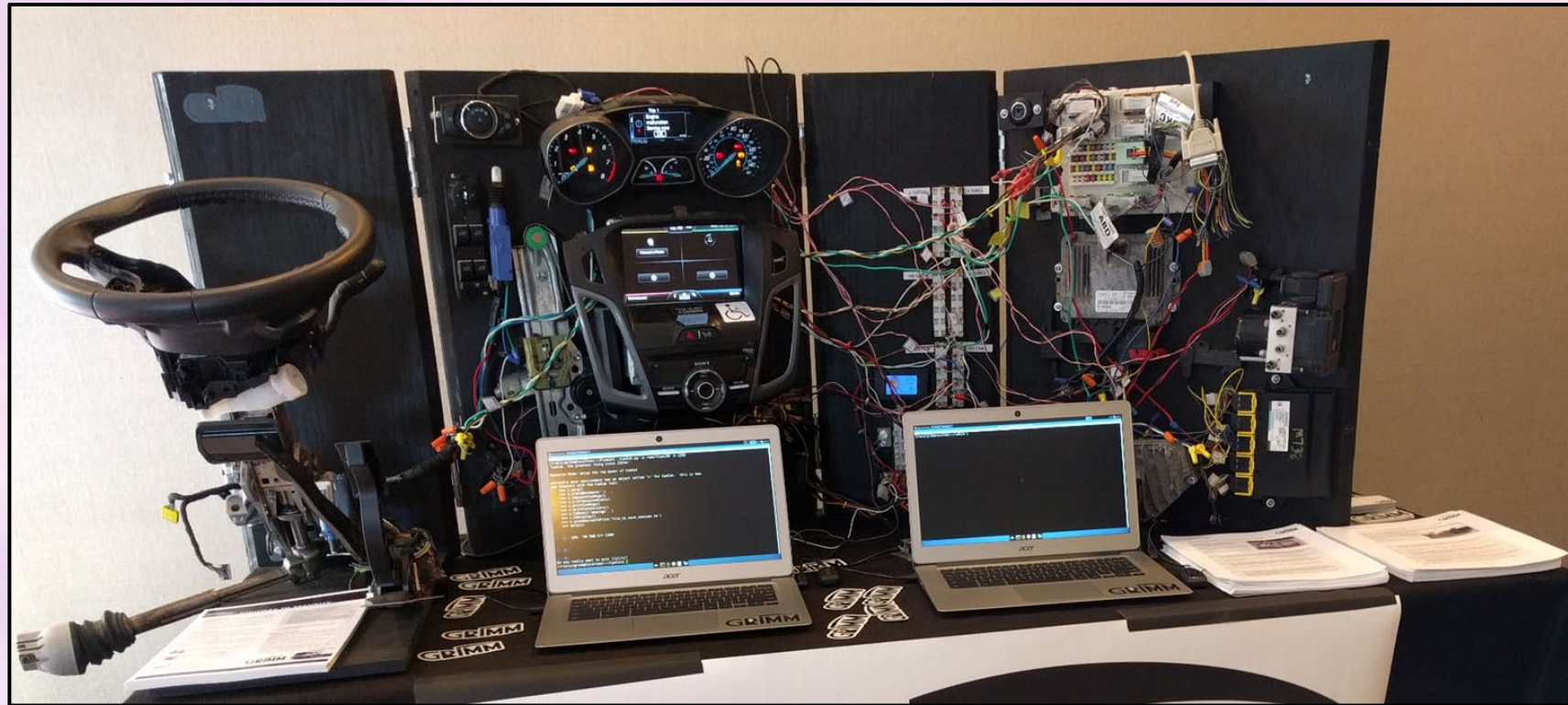
Car in a Case





# Previous CTF Challenges / Exercises

Grimm's 3PO

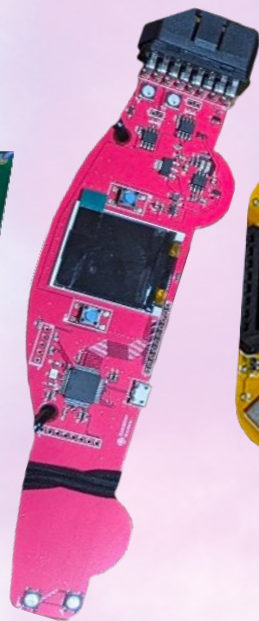




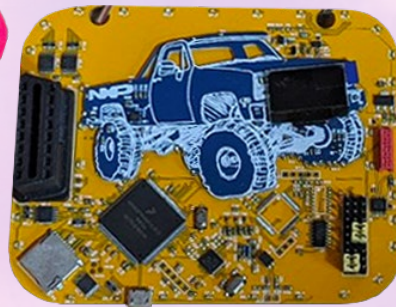
# Previous Years Badges



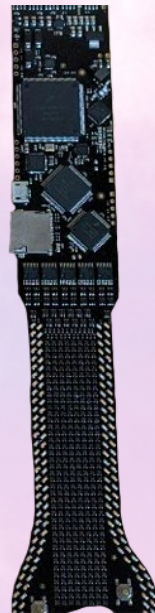
2015



2016



2017



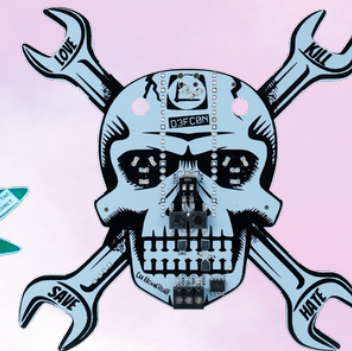
2018



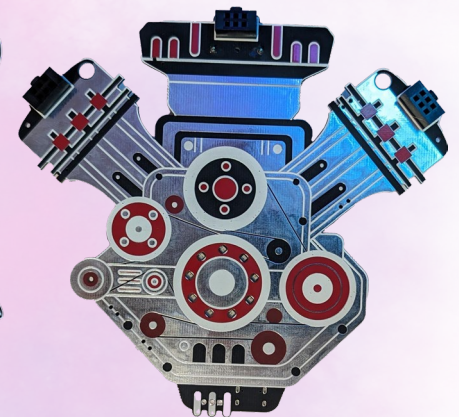
2019



2020



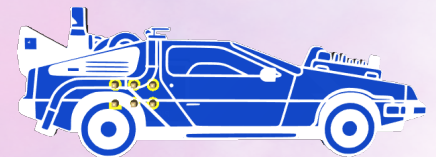
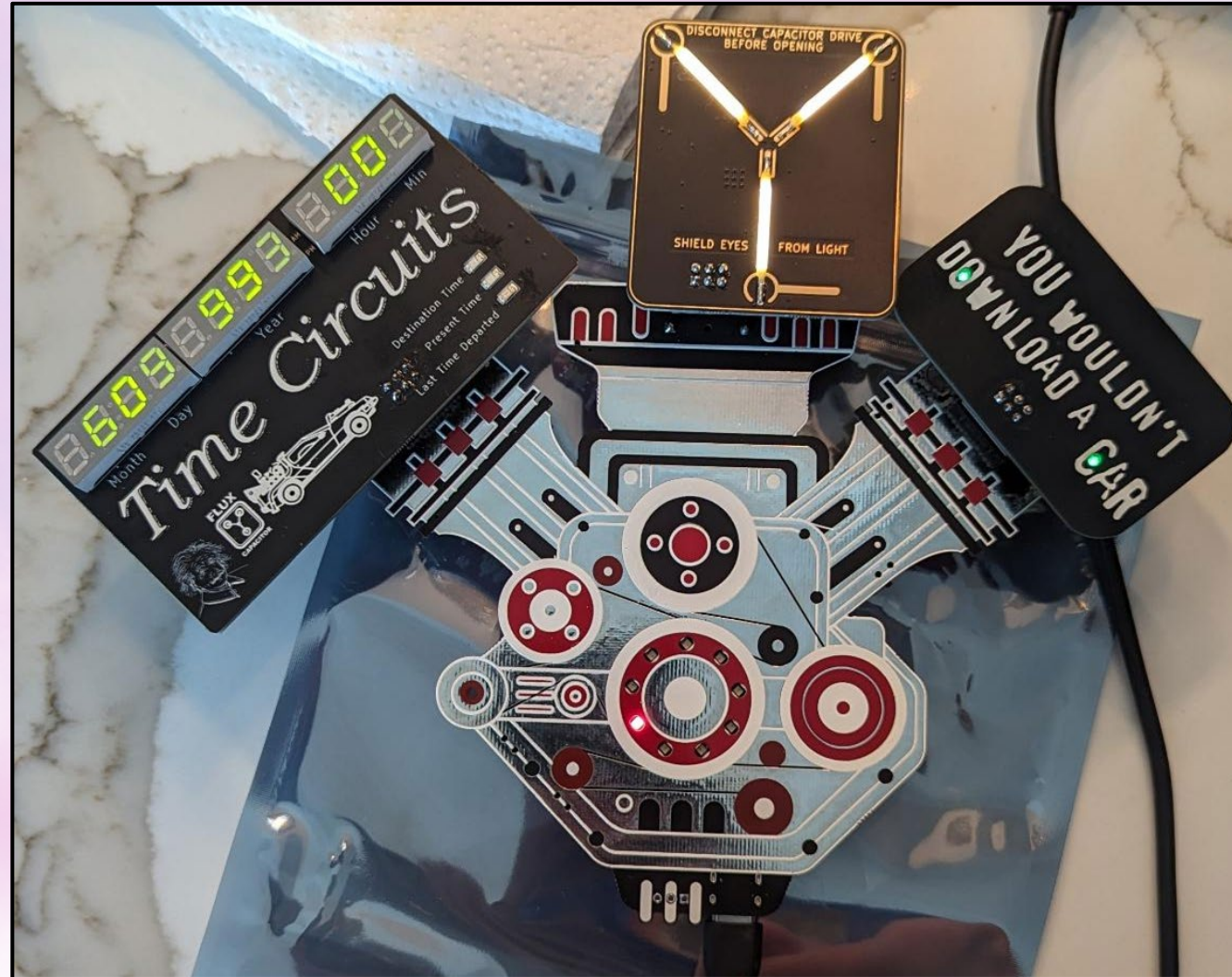
2022



2023



# 2023 SAOs





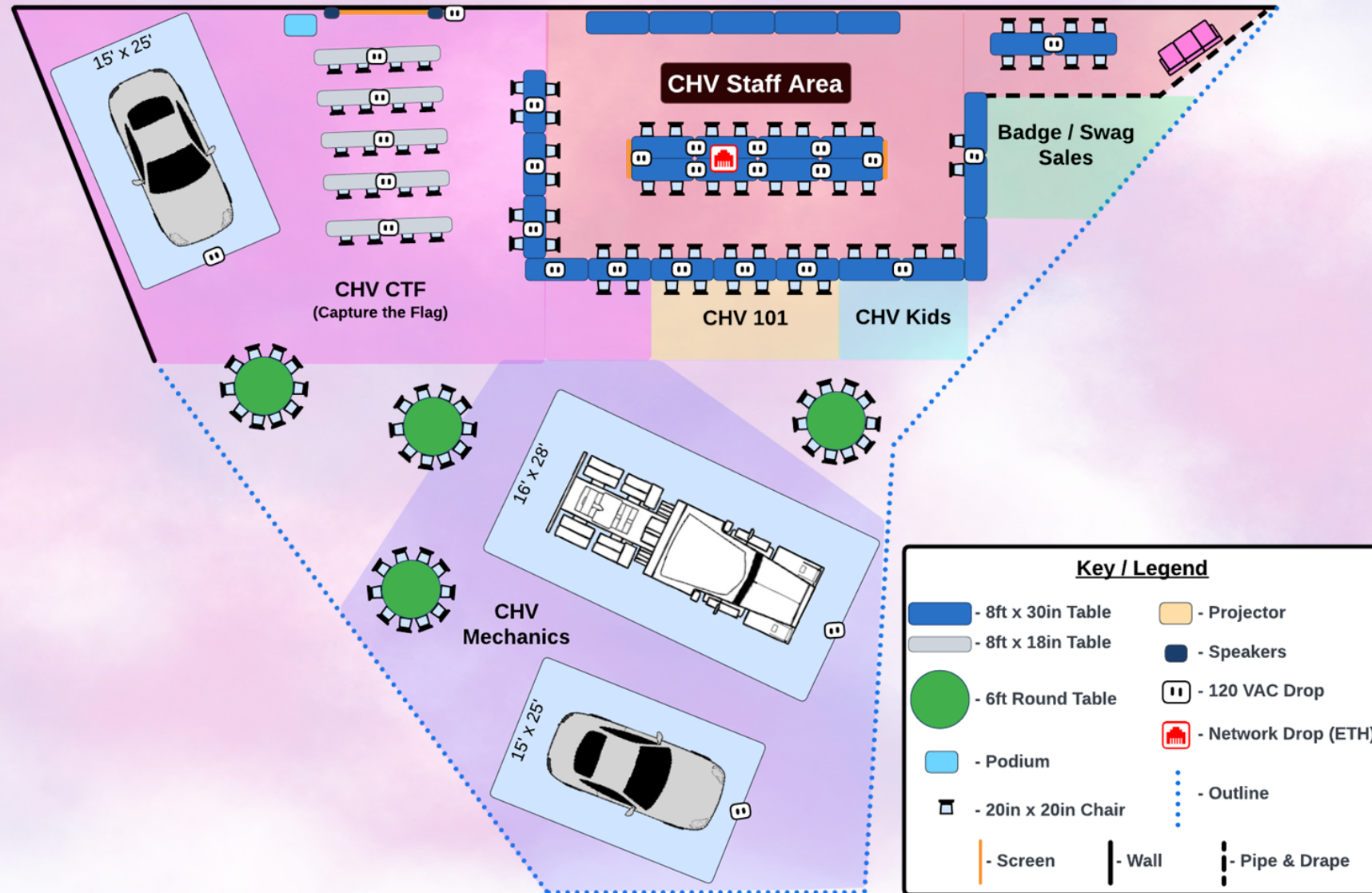


# CAR HACKING<sub>in</sub> WONDERLAND

AUGUST 8-11TH  
LAS VEGAS CONVENTION CENTER



# 2024 CHV Logistics





# 2024 CHV Kids

- In collaboration with DCNextGen
- Kids between 8 to 17 years old
- Scavenger hunt with multiple stops throughout the Village
  - **CHV Mechanics** - Learn about OBD-II and Vehicle Basics
  - **CHV 101** - Learn about Automotive Intelligent Gathering and Reverse Engineering
  - **CHV CTF** - Learn about what an Automotive CTF entails
- Opportunity to collect CHV Swag at each stop
- Booth Schedule:
  - **Friday, August 9th** - 1:00pm to 4:00pm PST
  - **Saturday, August 10th** - 1:00pm to 4:00pm PST





# 2024 CHV 101

## Reverse Engineering Demonstration

- Interact with a steering column to learn how vehicle communications work.
- LCD screen to display live vehicle communications.
- EV-based Hardware-in-the-Loop (HIL) demonstrations

## Automotive Threat Intelligence

- How to gather threat intelligence related to the automotive industry.
- What the current threat landscape looks like today.

## Schedule

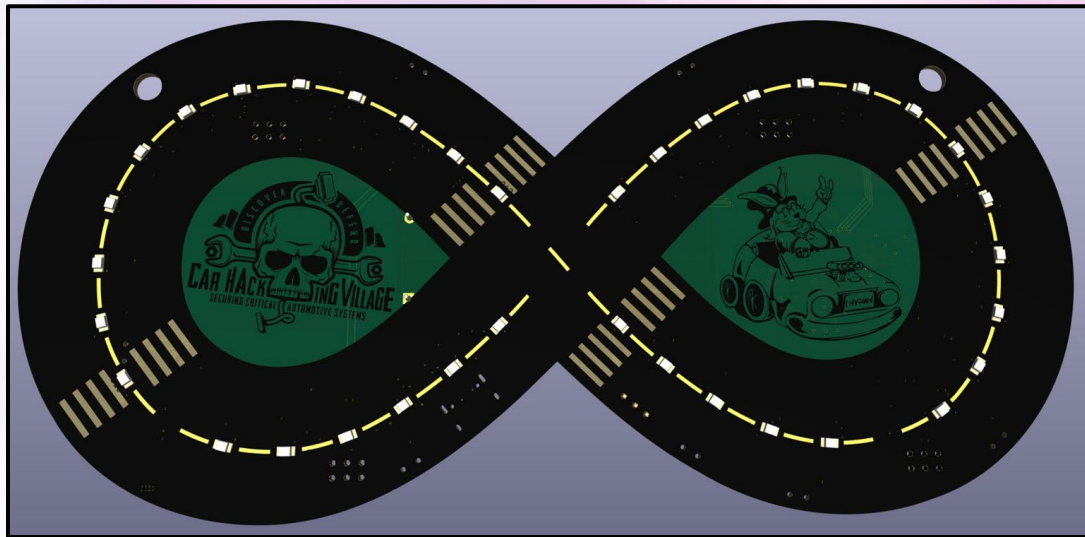
- Friday, August 9th - 10:00am to 4:30pm PST
- Saturday, August 10th - 10:00am to 6:00pm PST
- Sunday, August 11th - 10:00am to 12:00pm PST





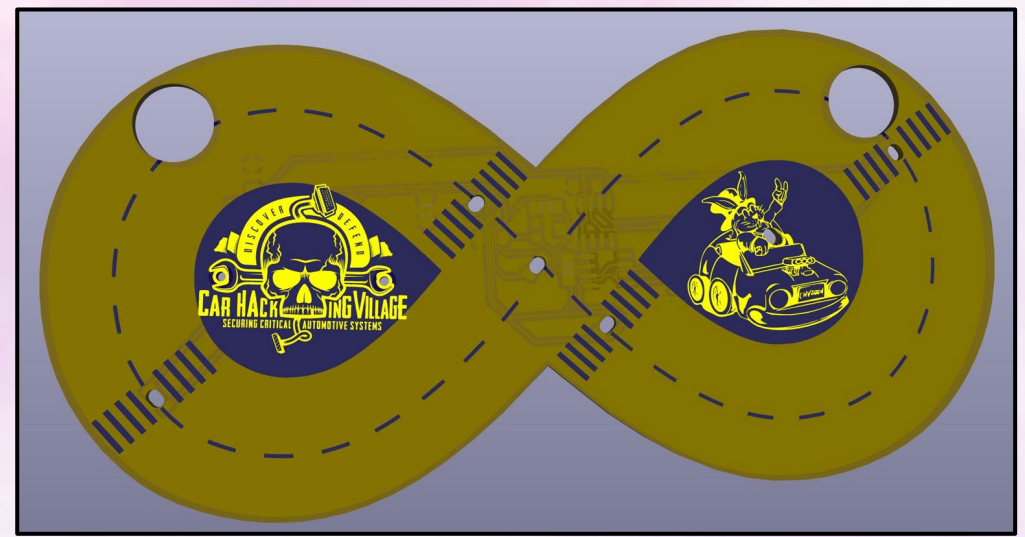
# 2024 CHV Badges

## Main CHV Badge



- 150mm Wide
- 4 CAN Networks
- CTF Challenges
- 4 SAO Connectors

## CHV Kids Badge



- 125mm wide
- Traffic Light Simulation
- Blinky Lights



# 2024 CHV SAOs (Badge Add-Ons)

## Speedometer SAO



- CTF Challenges
- LCD Display
- CANagotchi

## PRND SAO



- CTF Challenges
- LCD Display
- Simulated PARK, REVERSE, NEUTRAL, DRIVE

## Key Fob SAO



- CTF Challenges
- 125 KHz (LF)
- 433 MHz
- Simulates Passive Key Entry (PKE)



# 2024 CHV CTF

- In-Person Event
- 7-15 Automotive Security Challenges
- *Prizes + Notoriety + Possible DC Black Badge*
- Categories:
  - **Reverse Engineering** – data recovery/string searches/Forensics
  - **Telemetry** – radio/etc
  - **Grand Theft Auto** – challenges vs. car brought into the village
  - **Crypto**
  - **Vehicle Network** – CAN/Auto-ETH/etc
  - **Exploitation** – stack/heap smashing, shell popping/etc
- Schedule:
  - **Friday, August 9th** - 10:00am to 4:30pm PST
  - **Saturday, August 10th** - 10:00am to 6:00pm PST
  - **Sunday, August 11th** - 10:00am to 12:00pm PST

[carhackingvillage.com/cfc](https://carhackingvillage.com/cfc)



## Previous CTF Prizes





# 2024 CHV CTF 1st Place Prize

Tesla Model 3





## Previous Years Sponsors

CANBUSHACK

accenture

NXP

• APTIV •

ARGO AI

FCA

NMFTA  
National Motor Freight  
Traffic Association, Inc.

GRIMM



DELPHI

bugcrowd

NOVETTA

Motional



RAPID7

ETAS

ZOOX

Red Balloon  
Security

BG NETWORKS

IOActive

pwc



# 2024 CHV Sponsorship Prospectus

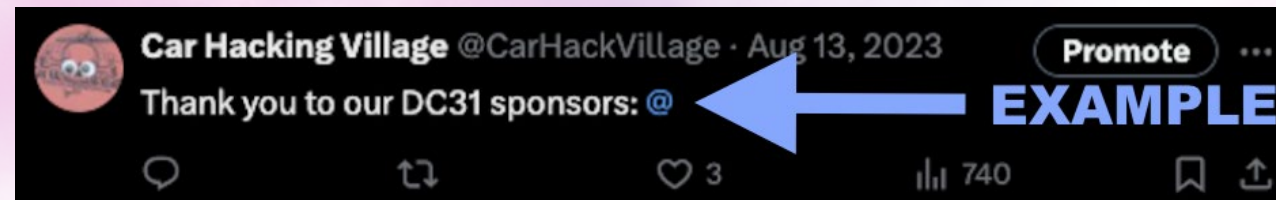
[sponsor@carhackingvillage.com](mailto:sponsor@carhackingvillage.com)

	Gold Tier \$12,500	Silver Tier \$9,500	Bronze Tier \$4,500	Creator Tier Contact Us
Logo on event marketing materials	Large	Medium	Small	Small
Logo on the carhackingvillage.com website	Large	Medium	Small	Small
Social media shout-outs	✓	✓	✓	✓
Sponsorship T-Shirts	6	4	2	1
Complimentary CHV Badges	6	4	2	1
DEFCON Tickets	4	2	0	0
Opportunity to reserve additional DEFCON tickets	✓	✓	<b>Call for Sponsors Ends:</b> <u>June 14th, 2024</u>	
Opportunity to include branded promotional material with the sale of CHV Badges	✓	✓		

# CHV Sponsorship Examples



Logo on event marketing materials

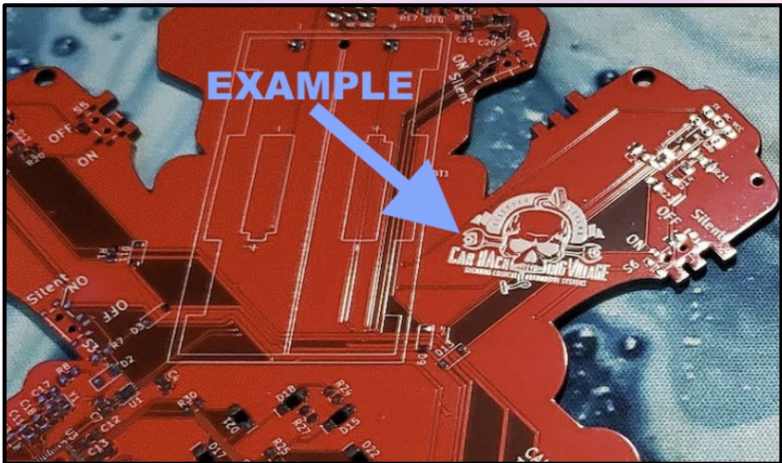


Social media shout-outs



# Sponsorship Promo Add-Ons

- Promotional Add-Ons are limited to **Gold Tier** Sponsors



Logo Placement on the Main CHV Badge

	Costs
Exclusive logo placement on the lanyard included in sale of the Main CHV Badge. <b>(Limited to 1 sponsor)</b>	+\$2,500
Logo Placement on the Main CHV Badge <b>(Limited to 2 sponsors)</b> <b>[1 spot left]</b>	+\$2,500

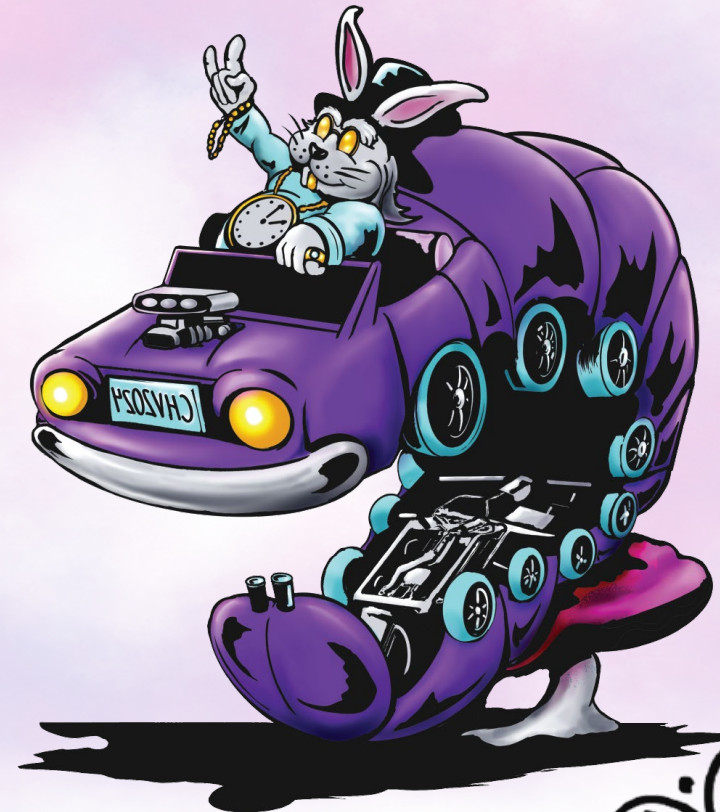


Logo Placement on the lanyard



# How to Get Involved?

- Develop CTF Flags / Challenges
- Volunteer In-Person for the Car Hacking Village (CHV)
- Attend DEFCON 32 to access CHV
- Attend other conferences to access CHV
- Join our Public Discord Server
  - [discord.gg/JWCcTAM](https://discord.gg/JWCcTAM)
- Sponsor Us!
  - [sponsor@carhackingvillage.com](mailto:sponsor@carhackingvillage.com)





## Contact Details

**Email:** [contact@carhackingvillage.com](mailto:contact@carhackingvillage.com)

**Website:** [carhackingvillage.com](http://carhackingvillage.com)

**Discord:** [discord.gg/JWCcTAM](https://discord.gg/JWCcTAM)

**Twitter:** [twitter.com/CarHackVillage](https://twitter.com/CarHackVillage)

**YouTube:** [youtube.com/@carhackingvillage](https://youtube.com/@carhackingvillage)

**Sponsor:** [sponsor@carhackingvillage.com](mailto:sponsor@carhackingvillage.com)



**Securing Critical Automotive Systems**

# CONTACT INFO

**Justin Montalbano**  
President



Car Hacking Village  
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Email: [mail@justinmontalbano.com](mailto:mail@justinmontalbano.com)



carhackingvillage.com  
**Discord:** discord.gg/JWCcTAM





# OPEN DISCUSSION

*ANY QUESTIONS ABOUT THE AUTO-ISAC OR FUTURE  
TOPICS FOR DISCUSSION?*

# THANK YOU





# OUR CONTACT INFO

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Executive Director



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