

Misbehavior Detection System for Cellular Vehicle-to-Everything Networks

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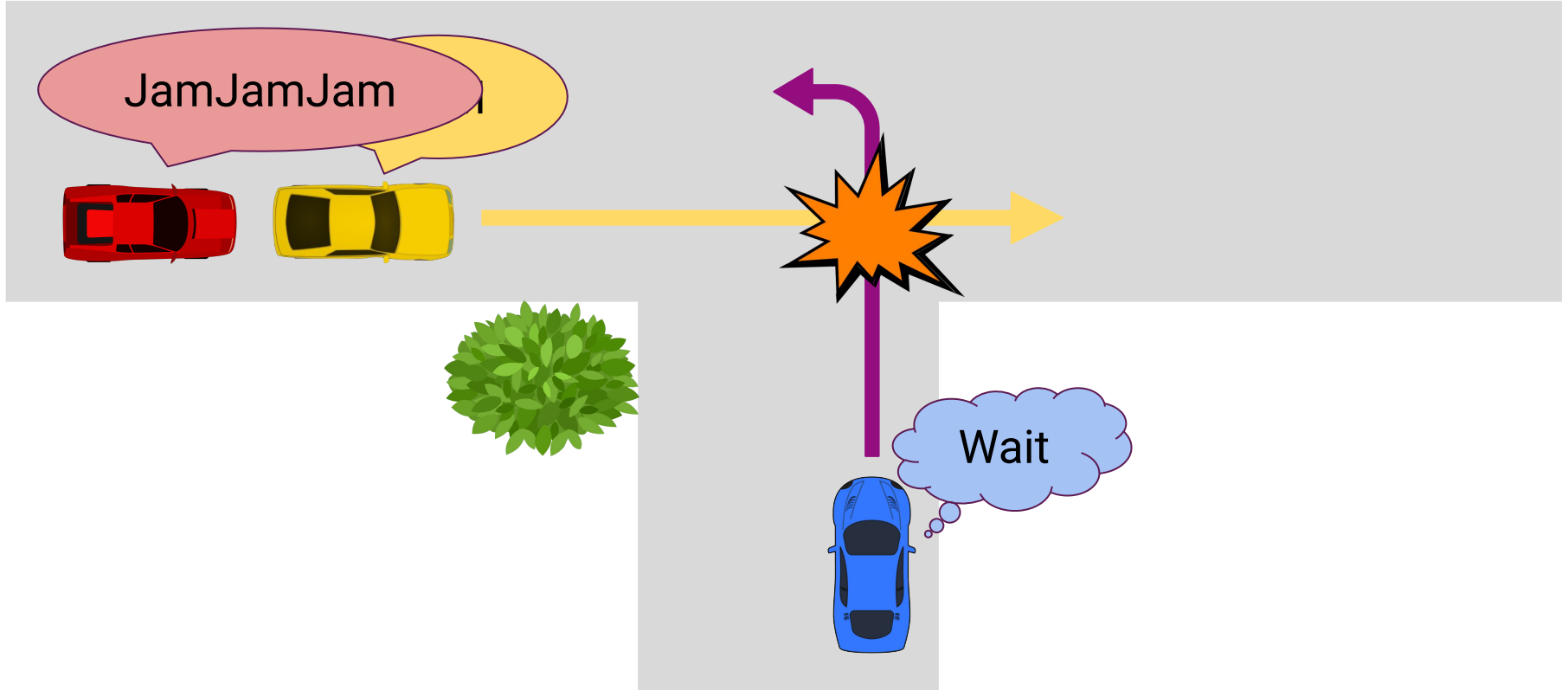
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C-V2X - New Technologies



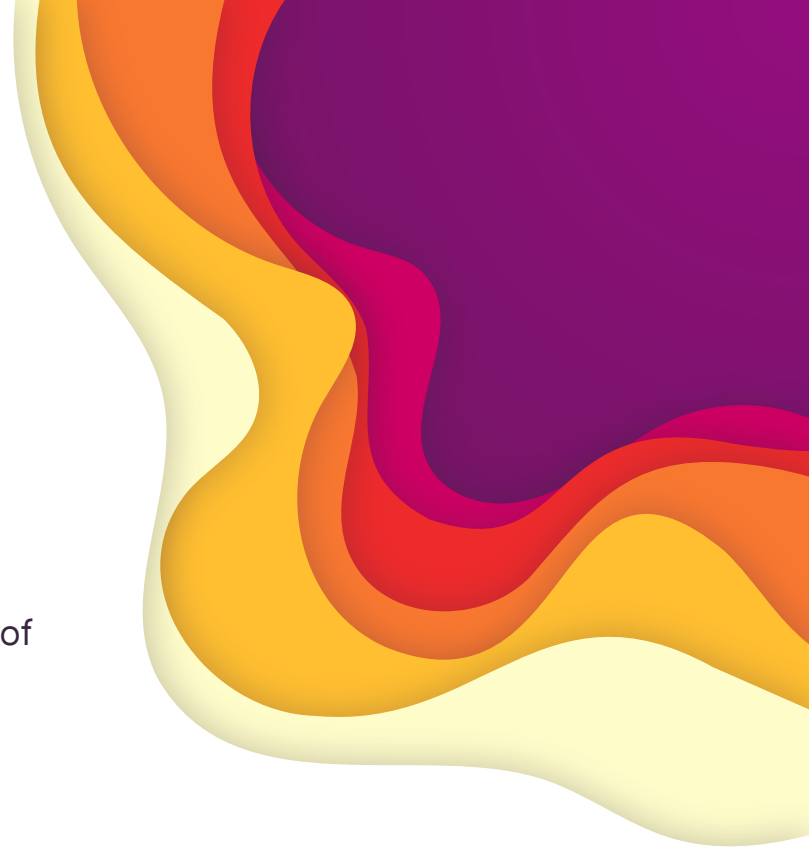
A Quick Summary

The client: David Starobinski, a professor of electrical and computer engineering in the BU College of Engineering.

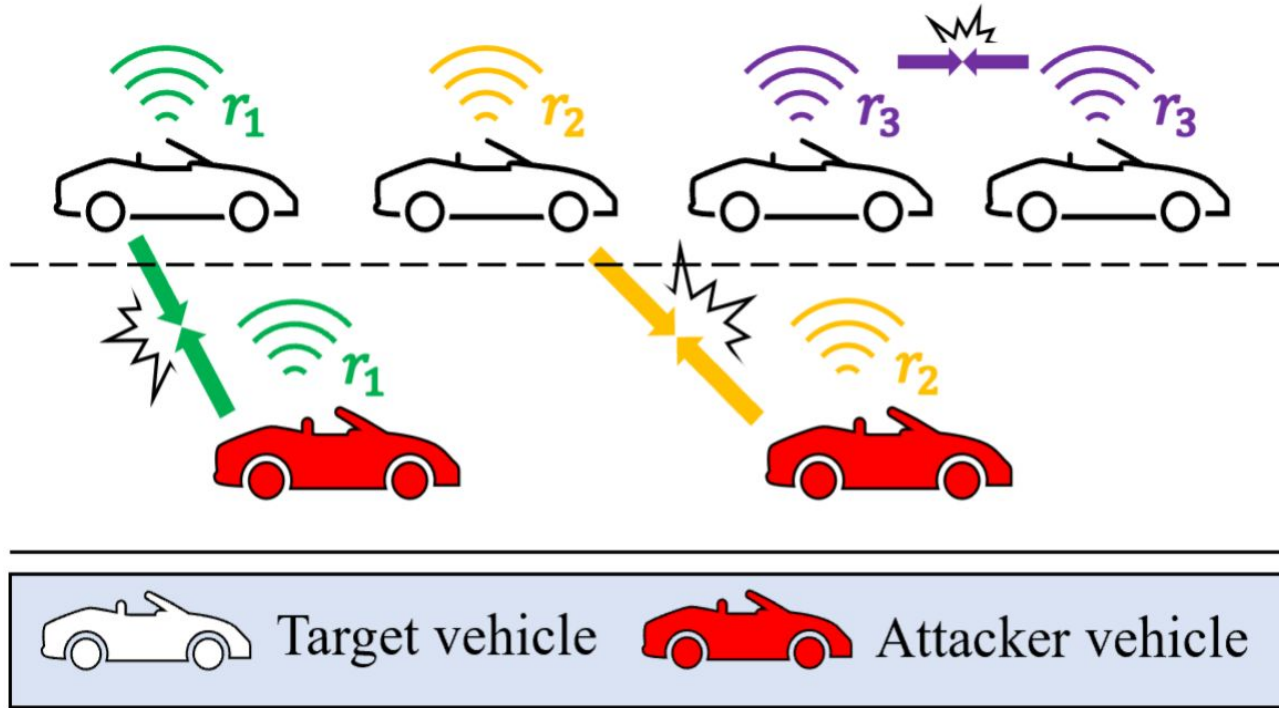
The product's purpose: Demonstrate the efficacy of the V2X standard, and the ability to detect malicious attacks through machine learning.

The outcome: Proper and effective use of V2X over software-defined radios, with an interface that notifies users of an attack in progress

The predecessor: Dedicated short-range communications (DSRC), a much less robust vehicle communication system.



C-V2X - New Technologies



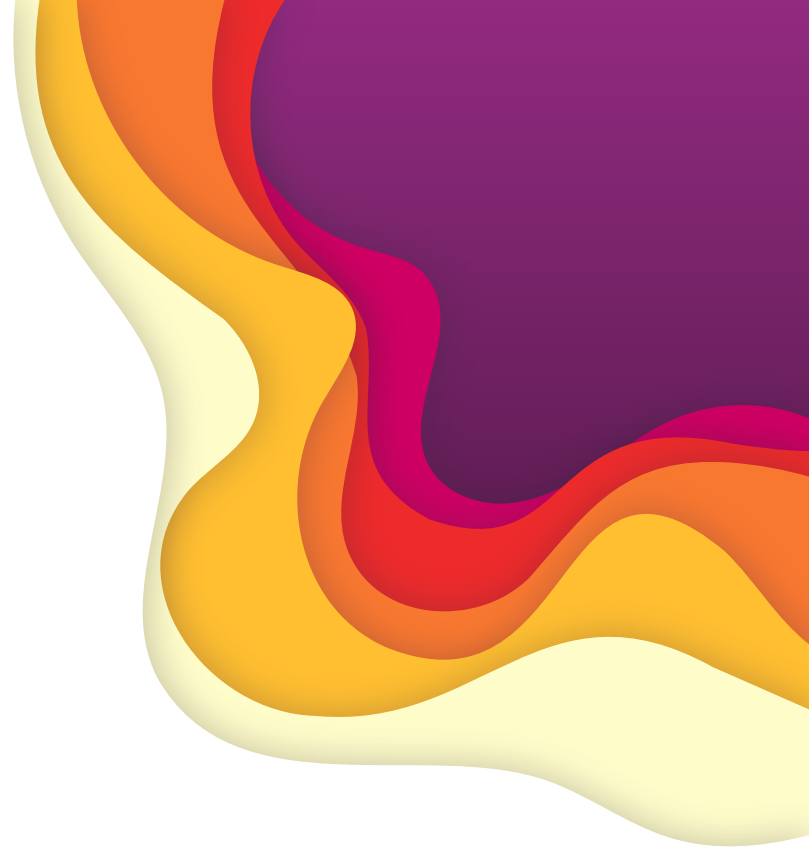
Related Technologies:

- Keysight Technologies:
 - SA8700A C-V2X Test Solution: C-V2X testbed
- Qualcomm:
 - 9150 C-V2X ASIC: C-V2X chipset
- CV2XinFIRE:
 - Feron Technologies
- Existing Research:
 - MEC-based DoS Detection ([Li et al.](#))



System Design

- 4 software defined radios
- The srsRAN C++ library from Software Radio Systems
- Node/Javascript libraries for live visualization of data

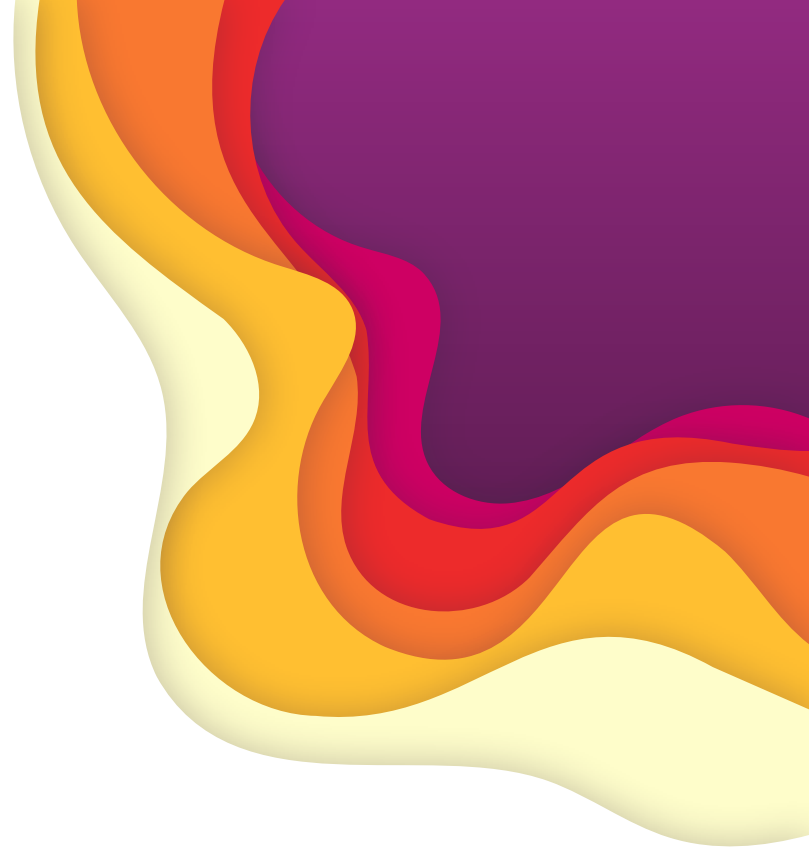


Who will use this?

To start – Researchers in computer networking and the software defined radio space.

Later – Law enforcement, stress testing auto manufacturers.

End goal – Automatic integration into all V2X capable devices.



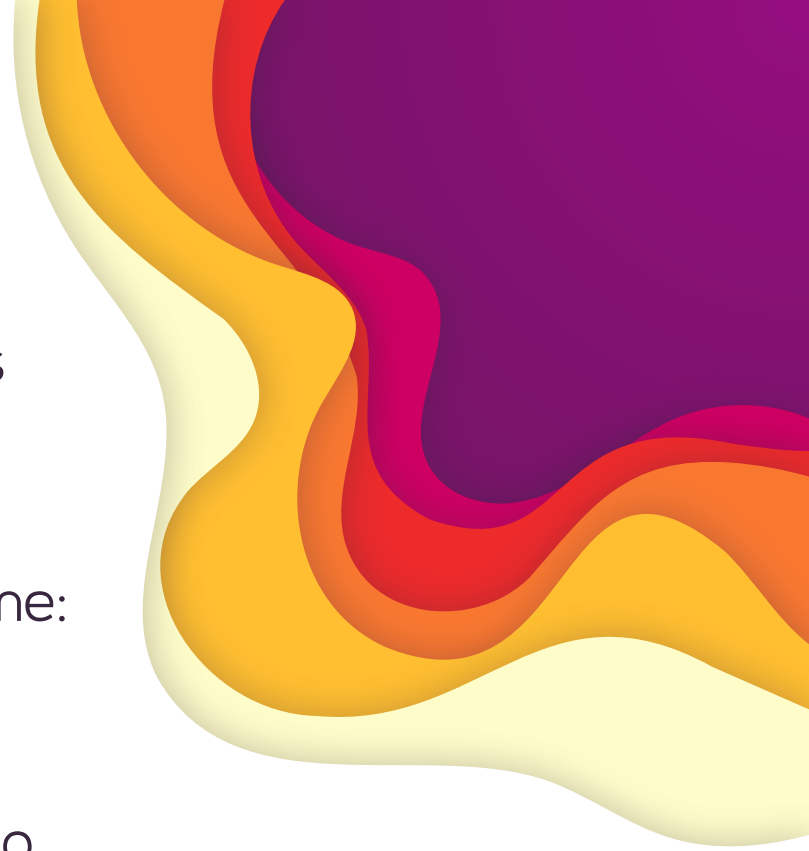
The image features a white background with decorative wavy borders in the corners. The borders are composed of overlapping, semi-transparent layers of color, including yellow, orange, red, and magenta. The text "Thank you!" is centered in the middle of the slide.

Thank you!

Actions

- Create your presentation
 - Preferable → Google Slides or PDF
- In Projects Folder, go to your Teams Folder
 - Upload your presentation to the following with the following name: Shark_ Team_XY
 - If you want to and for practice, you can Create a 5 minute video describing your project. Please use the same naming convention

● Examples



Project Name

Project description (less than 30 words)

The completion of this project will cement the usefulness and increase in safety that C-V2X technology yields.

Special Sauce

- Point 1
- Point 2
- Point 3

Technology Solution

- Point 1
- Point 2
- Point 3

