



Colorado Science and Engineering Fair

2025 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: Frequency Chaos: Coding a Wi-Fi Interrupter for Tactical Use.

Finalist's Name: Bode Monahan

School and City: Liberty School, Joes

Sponsor's Name: Linda Fogale

Category: Mathematics & Computer Sciences

Division: Junior (grades 6 - 8)

Abstract (250 words or less):

The purpose of this project was to build a Wi-Fi interrupter. Most Wi-Fi interrupters currently available are not user-friendly and often require a password to access to a Wi-Fi network, which is not ideal. This project focused on creating a simpler and more efficient solution. The first step involved developing a method to access Wi-Fi networks securely and efficiently. Due to the sensitive nature of this step, specific details cannot be disclosed, as the technology is intended strictly for authorized law enforcement use.

The Wi-Fi interrupter operates using a method called ARP poisoning. This technique manipulates how devices on a network communicate by sending false information to them. These misleading signals cause devices to either misdirect their traffic or lose connectivity entirely. ARP poisoning is a common method in network security testing or situations where controlling network traffic is necessary. For this project, ARP poisoning was implemented to disrupt Wi-Fi communications under lawful and controlled conditions, ensuring its application remains ethical and appropriate.

An unexpected outcome of this project was the interrupter's ability to efficiently target multiple devices at the same time. By disrupting traffic across the entire network, the device proved to be versatile and effective.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. **A signed copy of this form must be included in your notebook.**