

How to solve base station communication anomaly





Overview

Can a fake base station avoid detection?

Similar to many other detection-based schemes, there can be a fake base station that can avoid detection, i.e., it is not detected as a faulty base station, but that would result in the attacker reducing its availability threat impact and releasing the connectivity setup.

What is a faulty base station vs a fake base station?

We varied the base station implementation to simulate legitimate vs. faulty but legitimate vs. fake and malicious base stations, where a faulty base station notifies the user of the connectivity disruption and releases the session, while a fake base station continues to hold the session.

Can a fake base station exploit a randomized selection?

The fake base station cannot exploit the randomized selection to make the user equipment connect to it with 100% 100 % probability. An attacker can attempt to launch a threat beyond just availability and disrupting the connectivity, such as attempting to make the victim user equipment connect to a fake server.

What happens if a base station is faulty?

The faulty base station establishes a radio connection with the user equipment and releases the connection afterward due to the worst channel conditions. Because our reference values come from the worst channel conditions, the optimal thresholds hence ensure fake base station detection with zero false positives under varying network conditions.



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Anomaly Detection

The First base station has reached anomaly score values close to 0. Consequently, the second base station is detected doing the work of two at once, transmitting twice the amount of calls ...

[Fault Diagnosis of Telecommunications Base Station ...](#)

Feb 11, 2025 · This article uses sensor analysis results as the basis for judging the signal status of base station equipments, and combines BP neural network to establish a base station ...



[Optimizing redeployment of communication base station](#)

Feb 6, 2025 · Most of the current research is based on the performance of the base station (BS) itself or the operation mode of the communication operator without considering the users' ...



[Fake Base Station Detection and Link Routing ...](#)

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[An Ensemble Approach for Fake Base Station Detection ...](#)

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Anomaly Detection Against Fake Base Station Threats Using ...

Sep 28, 2025 · Mobile networking in 4G and 5G remains vulnerable against fake base stations. A fake base station can inject and manipulate the radio resource control (RRC) communication ...



[Fake Base Station Detection and Link Routing Defense](#)

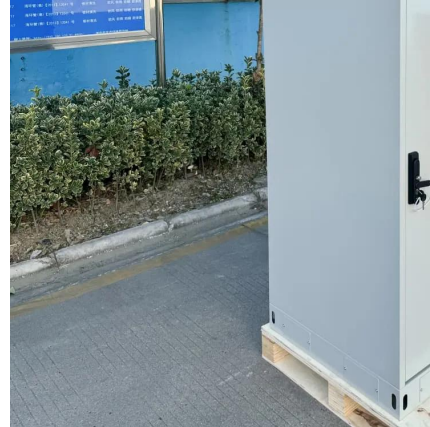
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[AI-Based Anomaly Detection for Rogue Base Stations](#)

Jul 7, 2025 · Conclusion AI-based anomaly detection is a formidable ally in the fight against rogue base stations. By leveraging the power of AI, telecommunications providers can enhance ...

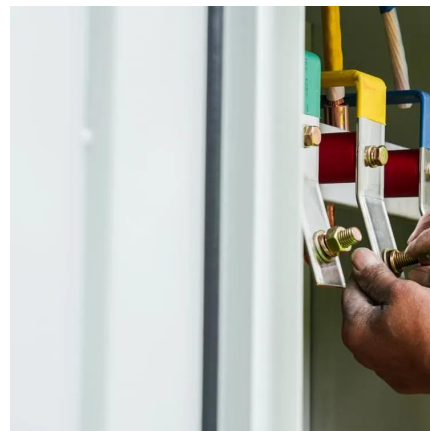


[How to Solve Multiple Base Station Signal Conflicts -Blog](#)

Apr 15, 2025 · Learn how to resolve multiple base station signal conflicts with BelFone's expert tips. Improve radio network performance and ensure clear, reliable communication.

[Intelligent Telecom Solutions: Employing Large Language ...](#)

Jan 30, 2025 · Telecom network issues disrupt critical services and lead to substantial financial losses. This study focuses on two key tasks: generating solutions for Base Station (BS) ...



[Anomaly Detection in Radio Access Network Performance Data](#)

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