On the Strength of Privacy Metrics for Vehicular Communication

ABSTRACT

- In this paper, we evaluate and compare the strength of 41 privacy metrics in terms of four novel criteria.
- Privacy metrics should be monotonic, i.e., indicate decreasing privacy for increasing adversary strength; their values should be spread evenly over a large value range to support within-scenario comparability.
- They should share a large portion of their value range between traffic conditions to support between-scenario comparability.

EXISTING SYSTEM

- Vehicular communication plays a key role in near-future automotive transport, promising features such as increased traffic safety and wireless software updates.
- However, vehicular communication can expose drivers' locations and thus poses privacy risks.
- Many schemes have been proposed to protect privacy in vehicular communication, and their effectiveness is usually evaluated with privacy metrics.
- However, to the best of our knowledge, different privacy metrics have never been compared to each.

PROPOSED SYSTEM

- We evaluate all four criteria on real and synthetic traffic with state-of-the-art adversary models and create a ranking of privacy metrics.
- Our results indicate that no single metric dominates across all criteria and traffic conditions.
- In extensive experiments, we have applied these criteria to 41 privacy metrics in fifteen traffic conditions.
- Visualization can highlight where privacy depends on road layout and can thus support the design of PETs.

HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB

SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)

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