Blockchain-based Vehicular Ad-hoc Networks (VANETs) for Secure Connections: Challenges and Innovations

Vehicular Ad-hoc Networks (VANETs) have emerged as a promising technology for improving road safety, traffic efficiency, and passenger experience. However, ensuring secure and reliable communication among vehicles and infrastructure poses significant challenges. Blockchain technology presents a potential solution for enhancing the security and privacy of VANETs. This conference aims to gather researchers, practitioners, and experts to discuss the challenges and innovations in implementing blockchain-based VANETs for secure connections.

Objectives:

The main objective of this conference is to provide a platform for participants to exchange knowledge, share research findings, and explore the advancements in utilizing blockchain for secure connections in VANETs. The conference aims to achieve the following objectives:

- Explore the potential of blockchain technology in enhancing security, privacy, and trust in VANETs.
- Discuss the challenges and limitations of implementing blockchain-based solutions for secure connections in VANETs.
- Present innovative blockchain-based architectures, protocols, and algorithms for VANET security.
- Showcase real-world case studies and pilot projects of blockchain-based VANETs.
- Identify future research directions and potential applications of blockchain in VANETs.

Potential Topics:

1. Blockchain-based authentication and access control mechanisms for VANETs.
2. Privacy-preserving communication and data sharing in blockchain-based VANETs.
3. Consensus mechanisms and transaction validation in blockchain-based VANETs.
4. Blockchain-based solutions for secure message dissemination and routing in VANETs.
5. Trust management and reputation systems for blockchain-based VANETs.
6. Scalability and performance issues of blockchain-based VANET architectures.
7. Integrating blockchain with emerging technologies (e.g., AI, IoT) in VANETs.
8. Regulatory and legal challenges of implementing blockchain-based VANETs.
9. Secure software and firmware updates using blockchain in connected vehicles.
10. Blockchain-based solutions for securing vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications.

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