CALL FOR PAPERS

IEEE Transactions on Vehicular Technology Special Issue on
Blockchains in Emerging Vehicular Social Networks

With the prosperity of Vehicular *ad hoc* Networks (VANETs), considerable attention has been paid to vehicular based services from both academic and industrial communities. As the intersection between VANETs and social networks, Vehicular Social Networks (VSNs) have the potential to mitigate some troublesome and frequent issues, such as traffic congestions and road accidents. It has been widely believed that, with the development of fast and reliable vehicular communication techniques and various user-centric applications, VSNs are likely to pave the way for sustainable development by promoting transportation efficiency. However, the flourish of VSNs is still somehow plagued by big data management and security challenges. On one hand, the huge amount of consistently generated data demands more efficient and effective management services. On the other hand, the real deployment of VSNs also requires appropriate security and privacy protection against holistic environments. In order to address these challenges, blockchain techniques appear on the radar of VSNs.

Blockchain, widely known as one of the disruptive technologies, is considered to be able to provide technical support for VSNs in terms of big data management and security. Firstly, blockchain can create a ledger for VSNs, which records all data and behaviors occurring in VSNs, and coordinates all events that occurred and will happen. Secondly, blockchain can be further used to address security issues related to VSNs, such as secure connection and communication between intelligent vehicles. Meanwhile, the decentralized consensus mechanism will effectively strengthen the security of the system. By integrating with a smart contract, the blockchain can turn every vehicle into an independent network node which can self-maintain and self-adjust. All these have demonstrated that blockchain should be carefully applied to boost the development of VSNs. This special issue covers the most recent research results that address blockchain issues in emerging VSNs. We solicit papers covering various topics of interest that include, but are not limited to, the following:

· Blockchain based smart contract in VSNs
· Blockchain based encrypted search in VSNs
· Blockchain based secure crowdsourcing in VSNs

- Blockchain based secure data storage in VSNs
- Blockchain based secure data sharing in VSNs
- Blockchain based access control and anonymization in VSNs
- Blockchain based authentication and authorization in VSNs
- Blockchain based data provenance in VSNs
- Blockchain based message integrity verification in VSNs
- Blockchain based real-time security monitoring in VSNs
- Blockchain based useable security in VSNs
- Blockchain based implementation and testbed for secure VSNs
- Blockchain robustness against maliciousness in VSNs
- Lightweight blockchain designs for resource-constrained VSNs
- Network and computing optimization in blockchains for VSNs
- Proof-of-concept blockchains for VSNs: experimental prototyping and testbeds

Important Dates

Submissions Deadline: **Extended to September 15, 2019**

First Reviews Due: November 1, 2019

Revision Due: December 15, 2019

Second Reviews Due/Notification: January 30, 2020

Final Manuscript Due: February 29, 2020

Publication Date: Second Quarter 2020

SUBMISSIONS

Submitted papers should not be under consideration elsewhere for publication and the authors must follow the IEEE Transactions on Vehicular Technology guidelines regarding manuscript content and format for preparation of the manuscripts. For details, please refer to the "Author Guidelines" at the IEEE Transactions on Vehicular Technology Web site at http://www.it.is.tohoku.ac.jp/~tvt/authors/information.html.

Authors must submit their manuscripts via the IEEE TVT manuscript submission system at https://mc.manuscriptcentral.com/tvt-ieee.

All papers will be reviewed by at least three (3) reviewers for their technical merit, scope, and relevance to the CFP.

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