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## I – SCIENTIFIC ACTIVITY DURING YOUR FELLOWSHIP

The proposed Research Exchange Programme (REP) will focus on advancing the understanding and development of Intrusion Detection Systems (IDS) for Connected Vehicles (CVs), specifically addressing adversarial and poisoning attacks on vehicle sensor networks. This REP aims to bring together interdisciplinary expertise to refine and expand upon the Label Flipping Detection System for IDS (LFD-IDS) discussed in the study.

Another REP aims to enhance the CKM-MAPPO framework and advance the development of optimal edge server deployment strategies in vehicle networking environments. The programme will foster collaboration between institutions to refine multi-agent reinforcement learning (MARL) techniques, optimize load balancing, and reduce delay and energy consumption in edge computing systems.

The primary goal of the third REP is to advance the development and deployment of efficient and secure communication protocols tailored for dynamic vehicular platoons. Building upon the Efficient Group Authentication Protocol (EEGAP), the programme seeks to optimize privacy preservation, computational efficiency, and secure group key agreement mechanisms for real-world vehicular networking scenarios.

## II – PUBLICATION(S) DURING YOUR FELLOWSHIP

1. **Z. Pooranian**, R. Taheri, F. Martinelli, LFD-IDS: Bagging-based Data Poisoning Attacks against Cyberattack Detection in Connected Vehicles. IEEE Transactions on Intelligent Transportation Systems (**Major Revision**).
2. Z. Zhou, **Z. Pooranian**, M. Shojafar, F. Martinelli, An Edge Server Deployment Strategy for Multi-Objective Optimization in the Internet of Vehicles. The 29th IEEE Symposium on Computers and Communications (IEEE ISCC 2024), 26-29 June, Paris, France (**Published**).
3. H. Cheng, Z. Wang, Q. Zhong, J. Song, J. Wang, **Z. Pooranian**, F. Martinelli, EEGAP: ECC-based Efficient Group Authentication Protocol for Dynamic Vehicular Platoon. IEEE Transactions on Intelligent Transportation Systems (**Major Revision**).

## III – ATTENDED SEMINARS, WORKHOPS, CONFERENCES

The 29th IEEE Symposium on Computers and Communications conference (IEEE ISCC 2024), 26-29 June, Paris, France.

## IV – RESEARCH EXCHANGE PROGRAMME (REP)

Not done!