Due to the ever-increasing needs of delay-sensitive and mission-critical applications (autonomous driving) in 5G, mobile edge computing is promising to react and support real-time interactive systems. as an example, some applications with rigorous timing requirements may be hosted at the edge of the mobile network, nearer to the control hardware, whereas some applications with relaxed timing requirements may be hosted in a cloud situated geographically further away.

Data required for analysis and sharing is being generated at gigabyte-per-second-per-vehicle rates. Large-scale computational infrastructures are required to fulfil the need for significant computational capabilities and handling large data volumes, and so create an inclination towards Cloud Computing. Nevertheless, moving lots of data over large distances can be problematic, which **raises problems** such as high latency, security (monitoring) issues, sending real-time data and alerts without any disturbances, and increasing capital outlay and operating expenses. Edge computing or more localised computational provisions - such as those promised through so-called Multi-access/Mobile Edge Computing (MEC) addresses this latency challenge by facilitating storage and more localised computational provisions to where the data is generated.

In this paper, authors **propose to utilize** the distributed cloud such that some computations can be run on the vehicle and some can be offloaded to the edge. So, they briefly explored a distributed computing architecture intended to address on-vehicle and off-vehicle computation as could support connected and autonomous/automated driving. Certain needs for more local computation lead them to identify the key role that mobile/multi-access edge computing (MEC), over 5G telecommunications, may be able to play. They **claimed** to explore the role that Multi-access Edge Computing (MEC) could play in cooperative automated driving, as part of a distributed system intended to combine capabilities of vehicles with those of Cloud. Such a system is presently being formulated in a 5-year research project called CARMA (Cloud-Assisted Real-time Methods for Autonomy), co-funded by the UK's Engineering and Physical Sciences Research Council (EPSRC) and Jaguar Land Rover under a programme of five projects collectively called "Towards Autonomy - Smart and Connected Control".

The author **referred** to various relative concepts such as 'Traditional' Cloud Computing and providing an overview of more recent innovations in Cloud (Containers and Functions). They discussed about mobile/multi-access edge computing (MEC), Fog computing, Cloudlet by Carnegie Mellon University (CMU) and presented the 3-tier logical architecture of CARMA that incorporates Edge capability. By **comparison**, they assumed that MEC will become aligned with Cloud provision, and **explored and critiqued** so-called Edge provisions from major Cloud vendors. With Cloud reasonably mature in technology terms, and manufacturers building increasingly technology-reliant vehicles, the readiness of state-of-the-art provisions at Edge is less apparent. Finally, challenges that will require resolution beyond edge provision are **outlined** after their proposed solutions such as Application orchestration, Heterogeneity of infrastructure, Quality of Experience (QoE), Live migration, Networking protocols and Security.

Their **work is significant** as they proposed to utilize the distributed cloud such that some computations can be run on the vehicle and some can be offloaded to the edge. The benefit from all such approaches is reduced end-to-end latency, since smaller data volumes - at smaller distances - need to be transported to/from the cloud. Further, management, including network measurement, control and configuration, is performed at or near the end-user. Additionally, the provisioning of edge computing in 5G is exploited for different time critical applications such as autonomous driving.

They **approached the problem** by the motivation to reduce delays in some high end-to-end communication. Such delays may be tolerated by applications without hard real-time constraints, but this would not be suitable for cloud-assisted or cloud-driven control services unless such information is suitably pre-fetched and cached. As cloud has certain limitations, originating in part from the high cost of building and operating datacentres. Cloud datacentres will tend to exist at reasonable geographical distance from most users. To overcome this challenge has led to the emergence of three key notions of offering computational capability and storage physically closer to the end user: Fog Computing, as presented by CISCO, Mobile Edge Computing, as described by the European Telecommunications Standards Institute, and Cloudlet, from Carnegie Mellon University.

The proposed solution is **convincing sound** as they carried out comparisons about mobile/multi-access edge computing (MEC), Fog computing, Cloudlet and presented the 3-tier logical architecture of CARMA that incorporates Edge capability. They **compared and assumed** that MEC will become aligned with Cloud provision, and explored and critiqued so-called Edge provisions from major Cloud vendors. The references to other related papers do assist the readers much as the authors have given the summarised conclusions of the observations from the previous work in their paper. However, their work does not talk about explaining the experimental comparisons as a matter of fact that all the solutions proposed are based on the work done by private companies. The proposed solution has some challenges such as Application orchestration, Heterogeneity of infrastructure, Quality of Experience (QoE), Live migration, Networking protocols and Security. These challenges are mentioned by the authors in their conclusion as they will require resolution beyond edge provision.

In order to fulfil latency-sensitive applications in 5G, edge or fog computing appears promising to decrease the transmission time during computation offloading, by taking advantage of nearby nodes with available resources which **strengthens the proposed solution**. They categorized edge computing into different groups based on architecture, and studied their performances by comparing network latency, bandwidth occupation, and overhead. They monitored both the computing resources in use, as well as the load on the underlying network resources, offered the opportunity for efficient workload migration (to and from the edge). ETSI MEC appeared to be a more complete ‘edge’ offering than Fog or Cloudlets, with incorporation of traditional server capabilities, in terms of virtualisation supporting a multiplicity of applications, and with direct access to the Radio Access Network (RAN). With Cloud reasonably mature in technology terms, and manufacturers building increasingly technology-reliant vehicles, the readiness of state-of-the-art provisions at Edge is less apparent.

To **improve the technical aspect of the paper**, they should conduct a comprehensive survey, analyzing how edge computing improves the performance of IoT networks. The authors should categorize edge computing into different groups based on architecture, and study their performance by comparing network latency, bandwidth occupation, energy consumption, and overhead. In addition, they should consider security issues in edge computing, evaluating the availability, integrity, and the confidentiality of security strategies of each group, and propose a framework for security evaluation of IoT networks with edge computing. Finally, they need to compare the performance of various IoT applications (smart city, smart grid, smart transportation, and so on) with simulations in edge computing and traditional cloud computing architectures.

The **overall level of the paper** is good: even if it is quite simple, it is well written, and the references to other related papers do assist the readers much as the authors have given the summarised conclusions of the observations from the previous work in their paper. The write-up is lucid, understandable and gripping. References are well mentioned. I have little concerns about the style of this paper. I think that some attention by authors should be devoted discussing the application scenario by explaining with realistic examples.