Integration of Federated Learning with IoT for smart cities Application, Challenges and Solutions

- The abstract paper "Federated Learning with IoT: Challenges and Solutions" discusses the need of real-time monitoring utilizing IoT data to solve privacy concerns and weaknesses in commercial financial models. The article discusses the issues IoT device manufacturers and consumers encounter when incorporating AI into real-world applications that require centralized data collecting and processing. Federated Learning (FL) allows distributed IoT devices to train AI models without sharing sensitive data. The study examines FL-IoT safety and FL applications in various IoT sectors. It stresses the necessity for more study to handle FL integration with IoT and encrypted data transmission.

- Overall, the paper serves as an acceptable introduction to the topic of Federated Learning with IoT but would greatly benefit from addressing the outlined drawbacks and incorporating the suggested improvements, but the following Concerns should be taken into consideration:

Concern 1: The paper briefly mentions different forms of IoT, such as "smart" businesses, cities, transportation, and healthcare, but fails to provide in-depth analysis or case studies for each domain. Expanding on the specific challenges and solutions within each IoT domain would provide a more comprehensive understanding of FL-IoT integration.

Insufficient Evaluation: The abstract paper lacks an evaluation of the proposed solutions

Concern 2: More technical details on FL algorithm implementation in IoT contexts could improve the study. They should also discuss each IoT domain's issues and solutions with case studies. To prove their efficacy and compare them to existing methods, authors should evaluate the offered solution models. Providing insights into future research areas would also help develop FL with IoT research.

Concern 3: Although the paper effectively addresses the current obstacles and remedies in FL with IoT, it needs explicit elucidation on prospective avenues or potential areas for further investigation. The inclusion of a thorough examination of areas that warrant further investigation, as well as proposals for potential advancements, would enhance the overall significance and scholarly merit of the paper.

Concern 3*: What are the contributions to this paper?*