

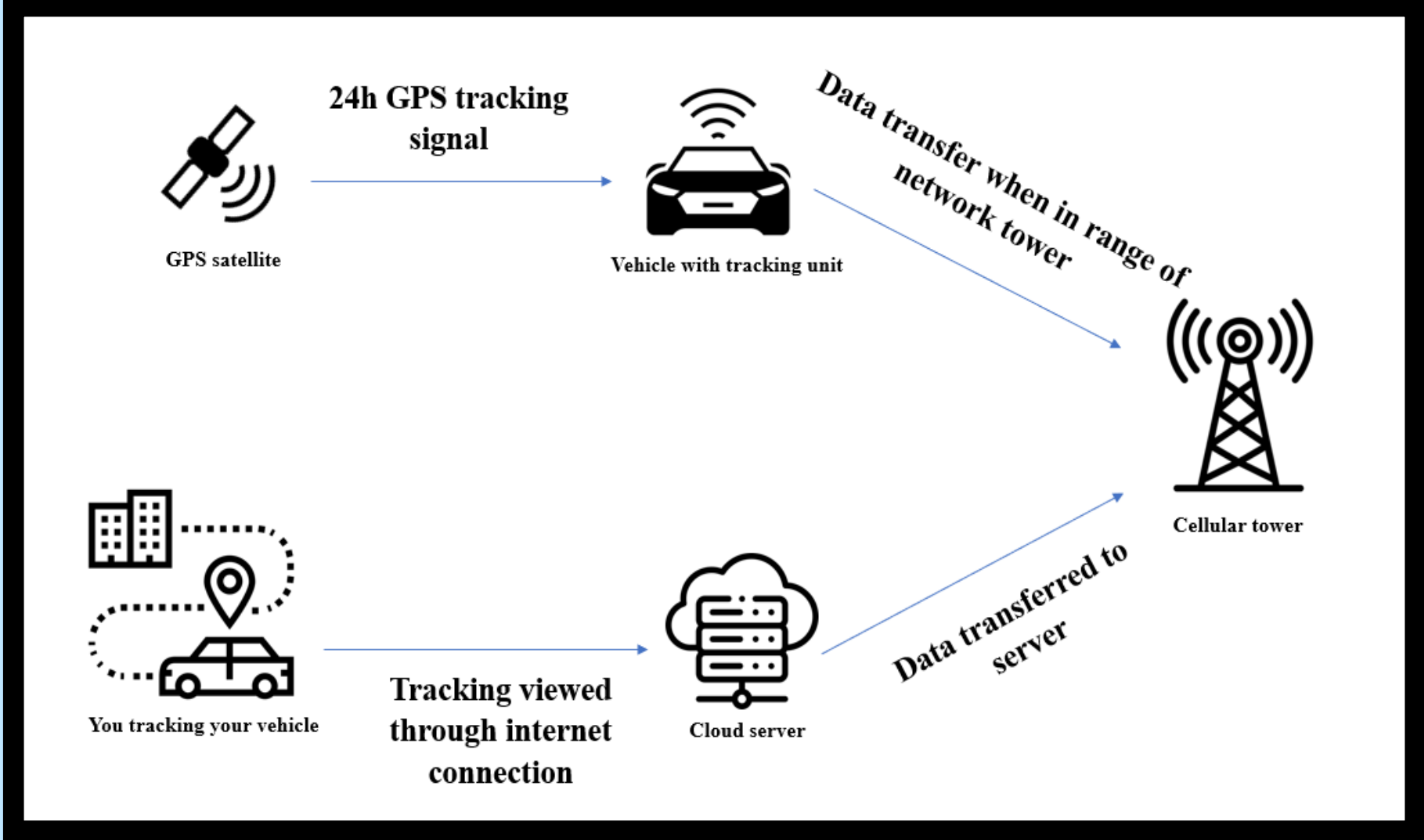
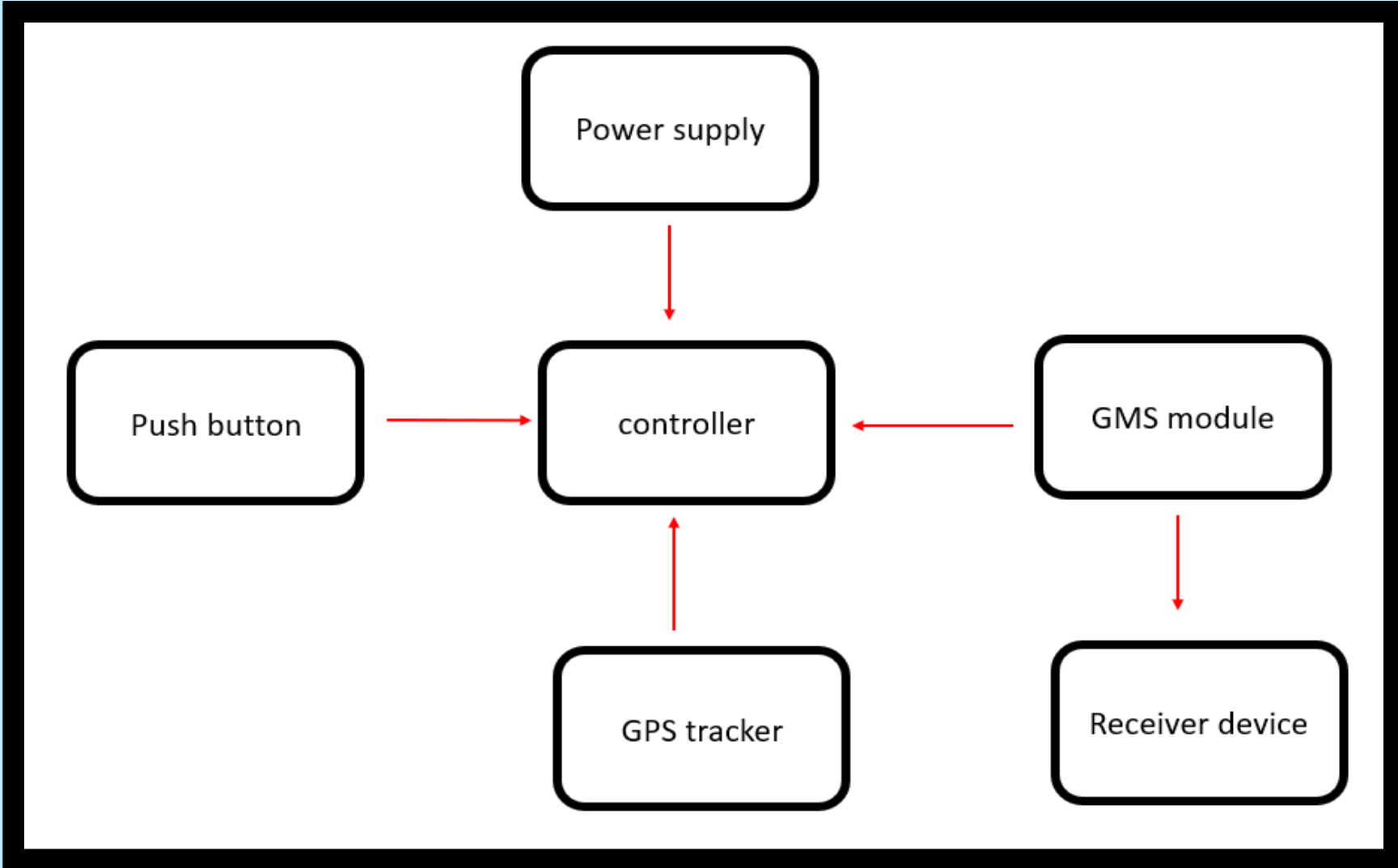
The Kavalan SOS Application For Location Tracking Using Internet of Things and Deep Learning With KNN and CNN Algorithm

INTRODUCTION

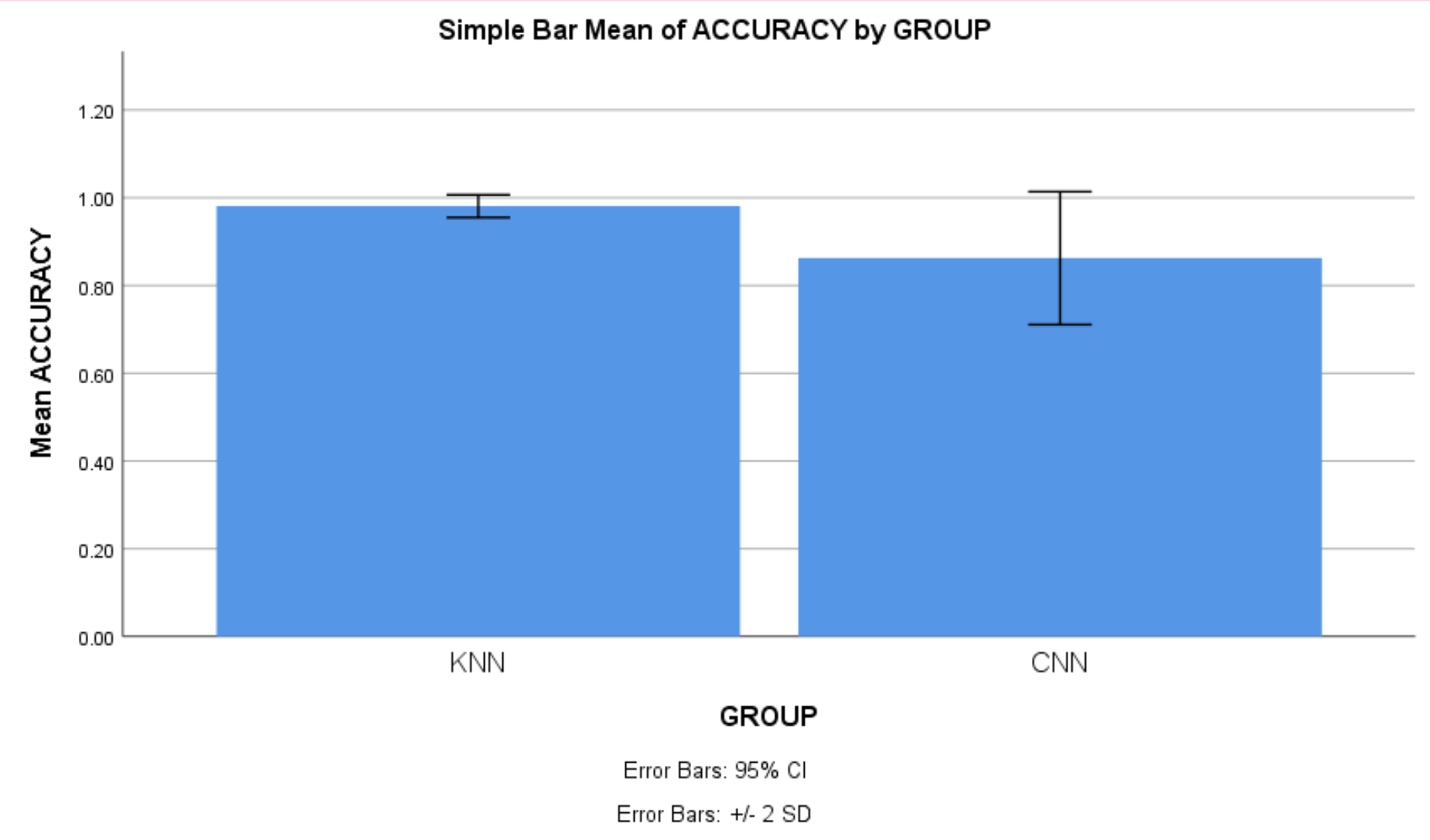
- The aim of **Location Tracking** primary objective is to accurately track the location of individuals in distress or emergencies. This involves real-time monitoring and updating of their whereabouts.
- The Kavalan SOS application aims to leverage the Internet of Things and deep learning technologies, employing KNN and CNN algorithms, for accurate location tracking in emergencies. It seeks to provide swift assistance by analyzing real-time data, ensuring user safety with efficiency, robustness, and a user-friendly interface.
- For location tracking, the Kavalan SOS application achieves high accuracy rates of 98% using KNN and 94% with CNN algorithms. Although KNN is a little more accurate than the other method, both are effective in quickly locating areas of danger, guaranteeing user safety and timely assistance in an emergency.



MATERIALS AND METHODS



RESULTS



- Convolutional Neural Networks (CNN) attain a 94% accuracy rate and are well-known for their ability to handle complicated input, including images and patterns. Even though this isn't as good as KNN, CNN is still rather good at identifying spatial relationships in data. This makes it possible to have more sophisticated location monitoring features, such as the ability to identify trends and contextual data to improve tracking precision.
- All things considered, the high accuracy rates of CNN and KNN show how successful the Kavalan SOS program is in providing trustworthy location tracking. CNN's sophisticated analysis offers useful insights and facilitates more complex tracking tasks, while KNN's greater accuracy makes it the best option for exact location monitoring.

DISCUSSION AND CONCLUSION

- The Kavalan SOS app uses deep learning and Internet of Things (IoT) technologies to offer sophisticated location tracking. To accomplish this, the application makes use of the K-Nearest Neighbours (KNN) and Convolutional Neural Networks (CNN) methods. With a 98% accuracy rate, KNN offers location monitoring that is incredibly dependable and effective. It allows for accurate identification of people in a variety of circumstances, including difficult ones.
- KNN's method is perfect for position-tracking applications since it classifies data points according to how close they are to neighboring data points. The application's excellent performance in this regard enables it to provide prompt and accurate responses in emergency scenarios.
- When it comes to location tracking in the Kavalan SOS application, KNN beats CNN with a 98% accuracy rate while CNN only manages a 94% accuracy rate. KNN is the best option for accurate and productive location monitoring because of its increased accuracy rate and speed.

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