SONOHI: A modular simulation framework with integrated SDR for producing synthetic data-sets

First Last
School of Electrical and Computer Engineering
University of Abcdefg
Email: email@domain.cedu

First Last
School of Electrical and Computer Engineering
University of Abcdefg
Email: email@domain.cedu

First Last
School of Electrical and Computer Engineering
University of Abcdefg
Email: email@domain.cedu

***Abstract*—**

I. Introduction

Next-generation mobile networks (5G) are required to offer increasingly high SE (spectral efficiency) and low latency to meet the demands and the drive for additional mobile services. [??] For the 5G related solutions to be viable, and be able to offer such high capacity networks in an effective manner solutions for the most pressing issues, 1) Interference and 2) Power consumption.

Add section about how these are expected/shown to be solved and where work is required.

It has been shown that learning techniques offer efficent solutions which are both adaptive, scalable and most importantly, applicable. The vast majority of the solutions take use of supervised learning techniques [??][??] where datasets are required for training. Some report the use of reinforcement learning techniques that gather data live and take appropriate actions that benefit the network or a subset of the network. In both cases getting access to realistic data from live networks is a cumbersome task.

In this paper we show a fully modular Open-source mobile network framework implemented in MATLAB for producing synthetic datasets. The main purpose of which is to produce realistic datasets that can offer sufficent knowledge for training such learning techniques, and subsequently be applied successfully in live networks. The advantage is to avoid costly network measurements that might be needed for developing techniques that offer solutions to next-generation mobile networks. The first public version will include State of the art traffic[??] and channel[??] models based on pedestrian mobility in Manhattan-like grids. Because of the modularity, it is intended that the SONOHI framework is extended with vechicular movement and any type of urban environment.

Acknowledgment

The authors would like to thank...

References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.