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Security Problems and Solutions of 5G Networks

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Annotation

In our everyday life telecommunication industry and its applications play tremendous role. Current cellular services have wide area of coverage and functionality, but present and future customers are in need of better quality of service, faster internet and solid corresponding basis that underlies new features. Those are reasons of evolving towards 5G networks. Besides very high speed, 5G has enhanced architecture and is heavily depended on software. The provision of the necessary services envisioned by 5G, such as novel networking models, efficient service deployment, requires novel storage and processing technologies. These novel models have some serious problems, that are also critical for 5G networks. It must be also mentioned, that during the past few years, the researchers discovered vulnerabilities in 5G security systems that allow attackers to integrate malicious code into the system and perform undesirable actions. These attacks are MNmap, MiTM and the Battery drain attack.

Major parts of thesis are:

1)Analysing current vulnerabilities, designing novel intrusion detection system (IDS) using KDD database and Deep Learning algorithm.

2)Implementation of IDS (as Algorithmic as well as Software)

3)Demonstration of training,testing and final results of algorithm