CCBD IoTSim Edge References

These are few of the papers we referred to while studying IoTSim Edge:

1. **IoTSim-Edge: A Simulation Framework for Modeling the Behaviour of IoT and Edge Computing Environments** by *DN Jha*

    With the proliferation of Internet of Things (IoT) and edge computing paradigms, billions of IoT devices are being networked to support data-driven and real-time decision making across numerous application domains including smart homes, smart transport, and smart buildings. These ubiquitously distributed IoT devices send the raw data to their respective edge device (e.g. IoT gateways) or the cloud directly. The wide spectrum of possible application use cases make the design and networking of IoT and edge computing layers a very tedious process due to the: (i) complexity and heterogeneity of end-point networks (e.g. wifi, 4G, Bluetooth); (ii) heterogeneity of edge and IoT hardware resources and software stack; (iii) mobility of IoT devices; and (iv) the complex interplay between the IoT and edge layers.

    Unlike cloud computing, where researchers and developers seeking to test capacity planning, resource selection, network configuration, computation placement and security management strategies had access to public cloud infrastructure (e.g. Amazon and Azure), establishing an IoT and edge computing testbed which offers a high degree of verisimilitude is not only complex, costly and resource intensive but also time-intensive.

2. **IOTSim: a Cloud based Simulator for Analysing IoT Applications** by *Xuezhi Zeng*

    Internet of Things (IoT) applications are considered to be a major source of big data. Such IoT applications are in general supported through clouds where data is stored and processed by big data processing systems. In order to improve the efficiency of cloud infrastructure so that they can efficiently support IoT big data applications, it is important to understand how these applications and the corre- sponding big data processing systems will perform in cloud computing environments. However, given the scalability and complex requirements of big data processing systems, an empirical evaluation on ac- tual cloud infrastructure can hinder the development of timely and cost effective IoT solutions. Therefore, a simulator supporting IoT applications in cloud environments is highly demanded, but such work is still in its infancy. To fill this gap, we have designed and implemented IOTSim which supports and enables simulation of IoT big data processing using MapReduce model in cloud computing environment. A real case study validates the efficacy of the simulator.