a more powerful, quicker and lighter simulator for Nanopore sequencing

Abstract:

Nanopore sequencing is one of the third generation sequencing technologies. A number of computational tools have been developed to facilitate the processing and analysis of the DNA data. Previously, they developed DeepSimulator1.0 ,which is the first simulator for Nanopore sequencing However, although DS1.0 can produce high-quality reads, for some sequences, the difference between the simulated raw signals and the real signals can be large. Furthermore, the Nanopore sequencing technology has evolved greatly since DS1.0 was released. It is thus necessary to update DS1.0 to solve the problem of Deep Simulator1.0.

Introduction:

Although the first version of Deep Simulator (DS1.0) has been recognized and used by a number of users there is still a large room for devolopment. Here, they present updated version of DS, DeepSimulator1.5 (DS1.5), which is more powerful, quicker and lighter than DeepSimulator1.0. In this new version, we have updated all the three modules. Regarding the sequence generator, they updated the sample read length distribution to reflect the newest real reads' features.