Tumor purity

tumor purity is the percentage of cancer cells in a tumor, it is measured mainly by to method: precent tumor nuclei estimation and genomic tumor purity inference. For precent tumor nuclei estimation, pathologists count number of tumor nuclei, and calculate the percentage of tumor nuclei in tissue slides. This method is wildly used but also tedious and time-consuming, moreover the accuracy depends on each pathologist. For genomic tumor purity inference, tumor purity is estimated by genomic data, it is considered as golden standard for tumor purity today. However, both 2 method short in estimate tumor purity for low tumor content sample, and they cannot orientate exact the location of cancer cells in sample.

The author of "Obtaining Spatially Resolved Tumor Purity Maps Using Deep Multiple Instance Learning In A Pan-cancer Study" developed a machine learning model consist of 3 modules to predict the tumor purity, the feature extractor module, MIL pooling filter and bag-level representation transformation module.