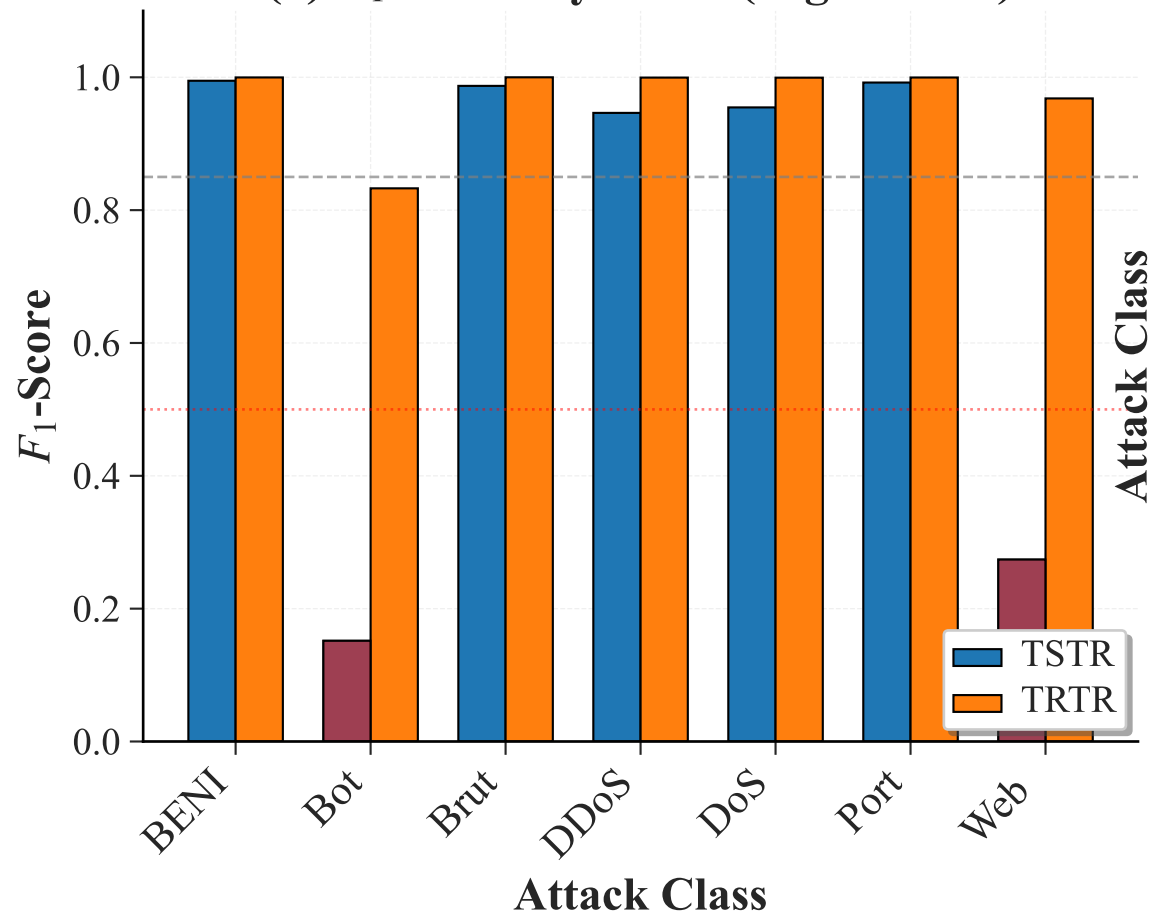


**(a)  $F_1$ -Score by Class (LightGBM)**



**(b) Performance Gap by Class**

