19/03/20

**Using microbenchmark**

**Scenario one – 2 target features (Prevalence at times 50 & 75)**

**Number of simulations – 60000**

**Targets used – (0.644, 0.404)**

**Parameters used to generate targets – (beta = 0.2, gamma = 0.02)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total runtime (secs ) | Model runtime (secs ) | Algorithm implementation time? (secs ) |
| Rejection | 1189.59  (19.83 mins) | 331.12  (5.52 mins) | 858.47  (14.31 mins) |
| Sequential | 2140.81  (35.68 mins) | 213.33  (3.55 mins) | 1927.80  (32.13 mins) |
| BMLE | 1089.80  (18.16 mins) | 485.68  (8.08 mins) | 604.12  (10.07 mins) |

**Scenario two – Increase target features and number of simulations**

**target features - Prevalence at times 50 & 75 + peak prevalence**

**Number of simulations – 75000**

**Targets used – (0.622, 0.371, 0.677)**

**Parameters used to generate targets – (beta = 0.2, gamma = 0.02)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total runtime (secs ) | Model runtime (secs ) | Algorithm implementation time? (secs ) |
| Rejection | 1515.44  (25.30 mins) | 532.51  (8.88 mins) | 982.93  (16.42 mins) |
| Sequential | 3514.25  (58.60 mins) | 563.92  (9.40 mins) | 2950.33  (49.20 mins) |
| BMLE | 1472.78  (24.55 mins) | 686.84  (11.45 mins) | 785.6  (13.1 mins) |