REPORT

5.1

The statistical distributions of model fit statistics using AIC values show identical results between serial and parallel processing methods. The AIC mean value and interquartile range measurements for both serial and parallel execution methods match precisely at 2987.72 and 94.02 respectively. The distribution stability demonstrates that parallelization methods had no adverse effects on model fitting because the same bootstrap samples and GLM configurations remained identical. A boxplot visualization would demonstrate distribution overlap for both execution methods confirming the results from the statistical tests.

5.2

The serial approach requires dramatically longer time than the parallel process does for execution. The serial execution lasted 0.35 seconds before completion yet the parallel mode finished the task at 0.07 seconds. This outcome proves that parallel processing achieves efficient computation time benefits with the addition of multiple CPU cores. Additional labor to handle parallel operations does not diminish the significant speed reduction obtained through parallel computing for large-scale GLM fitting processes.