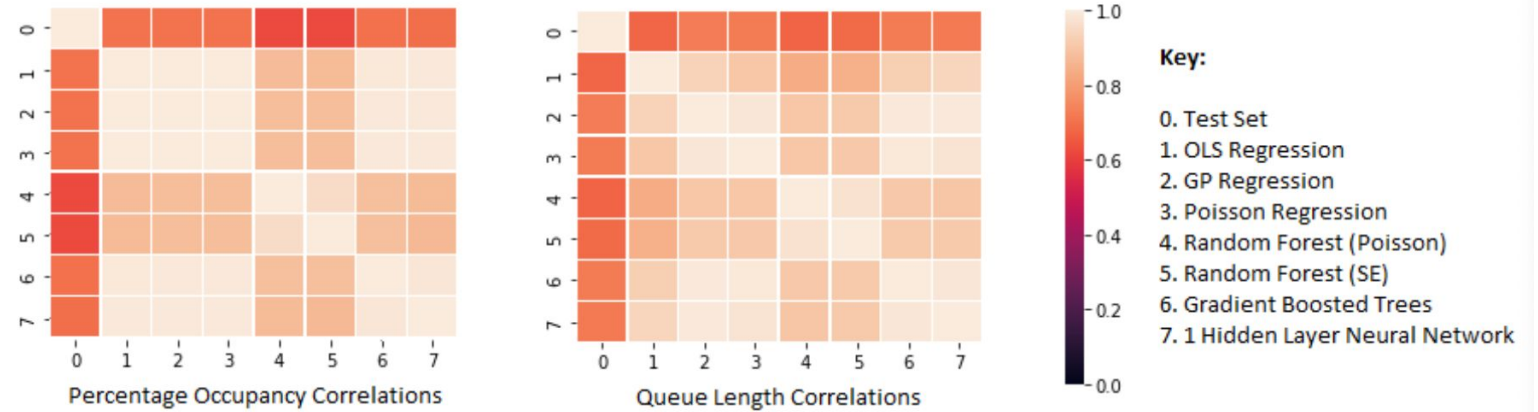


Hospital Optimisation Using Emulation

MLMI Group 2

Assessing Performance of Different Models



- Ensemble model automatically weighted based on correlations
 - Condorcet's Theorem
- Occupancy showed a linear trend
- Queue Length demonstrated exponential decay

Optimisation

- Optimal inputs:
 - 14 beds, 1 resources, and 1 staff
- Average daily queue length of 0.874
- Average daily percentage occupancy of 52%
- Cost with this configuration is \$5, 900 per day

Sensitivity Analysis

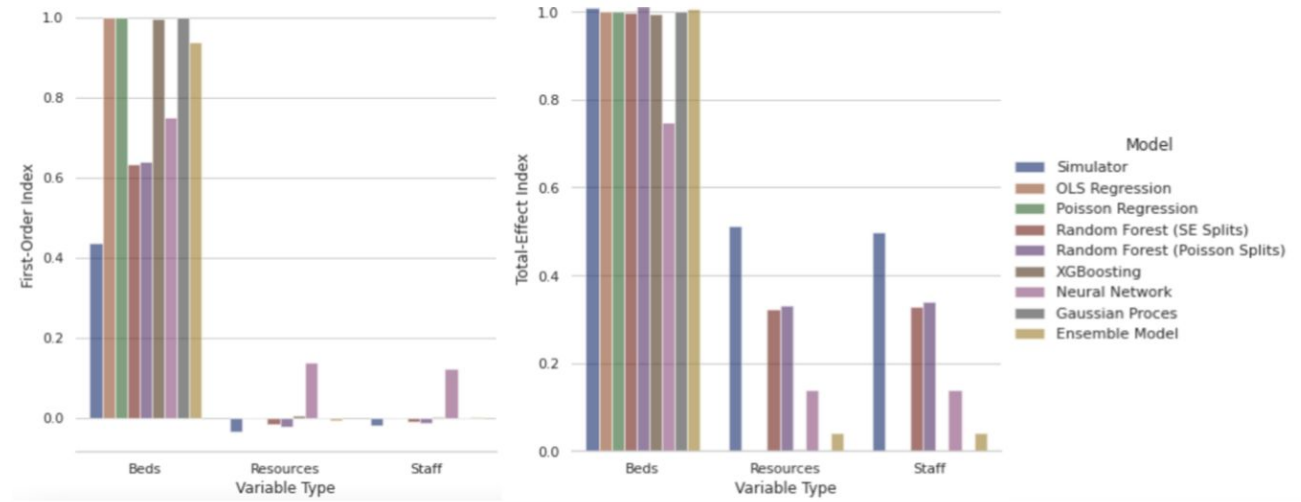


Figure 5: Sobol indices for the occupancy (S1 pictured left; ST pictured right)

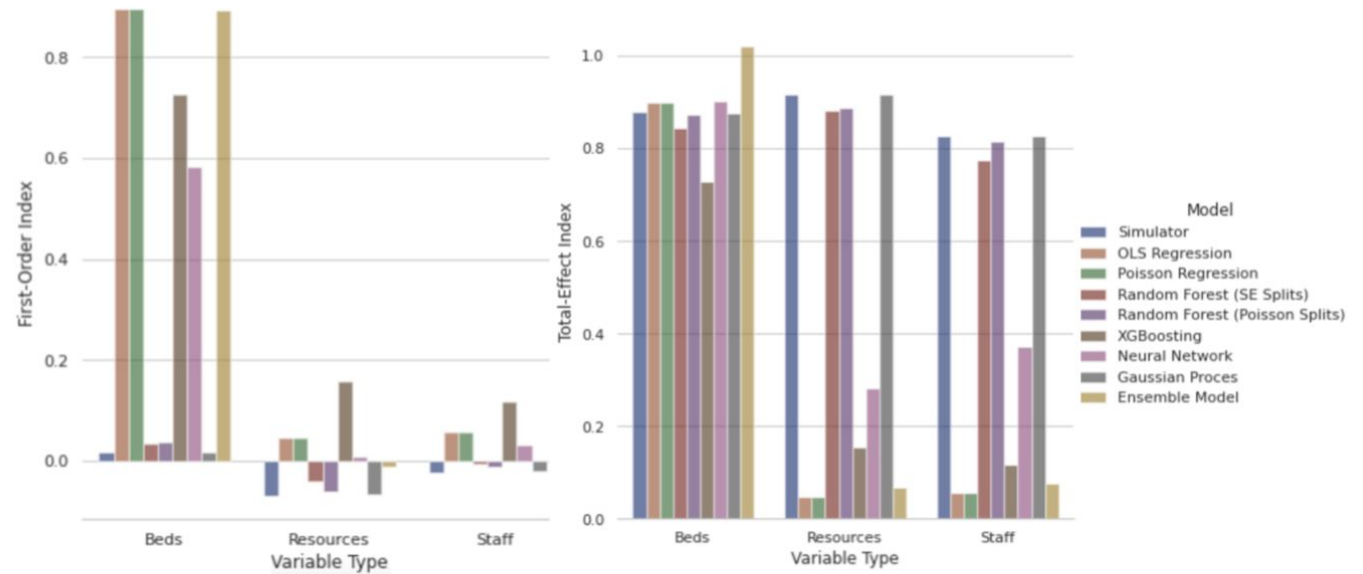


Figure 6: Sobol indices for the queue (S1 pictured left; ST pictured right)