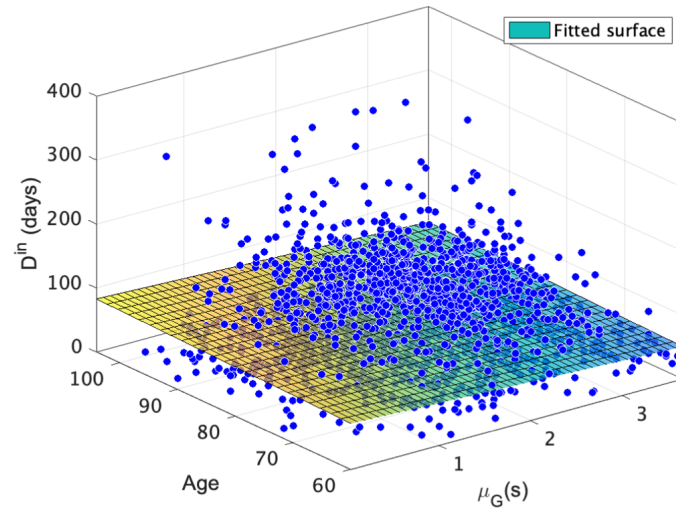
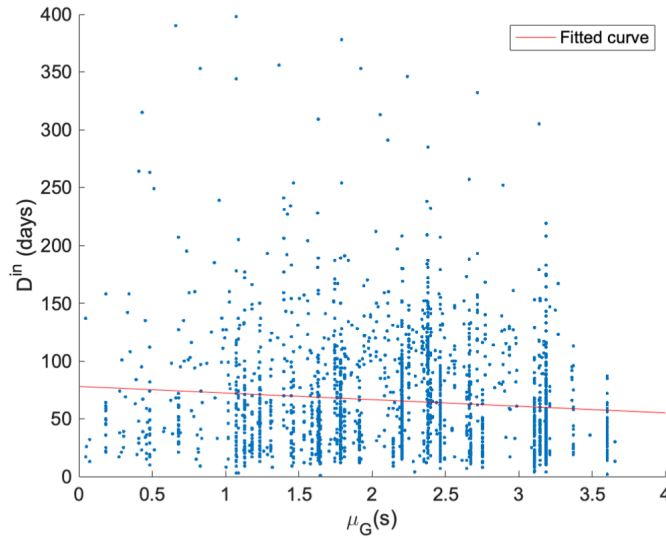


- The relationship between the network centrality of the medical provider and the duration of hospital stay



μ_G (s): geometric mean of centrality (strength) of medical providers, D^{in} : duration of hospital stay

- Improvement of the explanatory ability of statistical models using node embedding and machine learning

| | Input variables | Statistical model | R^2 (5-fold CV) | Adjusted R^2 (5-fold CV) |
|---------------|-----------------|-------------------|-------------------|----------------------------|
| Model1 | Strength | Linear regression | 0.0075 | 0.0071 |
| Model2 | Strength, Age | Linear regression | 0.01 | 0.0088 |
| Model3 (Best) | Node embedding | Linear regression | 0.17 | 0.15 |
| Model4 (Best) | Node embedding | Machine learning | 0.24 | 0.21 |

