Capstone Project

**Problem Statement:**

Salford Motors seeks to improve employee retention and answer the following question:

What’s likely to make the employee leave the company?

**Response:**

Since the variable we are seeking to predict is categorical, the team could build either a logistic regression or a tree-based machine learning model.

The random forest model slightly outperforms the decision tree model.

**Impact:**

This model helps predict whether an employee will leave and identify which factors are most influential. These insights can help HR make decisions to improve employee retention.

**Insights/Next Steps:**

* Cap the number of projects that employees can work on.
* Consider promoting employees who have been with the company for at least four years or conduct further investigation about why four-year tenured employees are so dissatisfied.
* Either reward employees for working longer hours, or don't require them to do so.
* If employees aren't familiar with the company's overtime pay policies, inform them about this. If the expectations around workload and time off aren't explicit, make them clear.
* Hold company-wide and within-team discussions to understand and address the company work culture, across the board and in specific contexts.
* High evaluation scores should not be reserved for employees who work 200+ hours per month. Consider a proportionate scale for rewarding employees who contribute more/put in more effort.

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Barplot above shows the most relevant variables: *‘last\_evaluation’, ‘number\_project’, ‘tenure’* and *‘overworked’.*