

### Title: Predicting Employee Attrition at IBM

- Hello, my name is Jane and I did my data analysis on predicting employee attrition at IBM. I originally wanted to do my project on a health related topic but found that predicting why some people might be leaving their job to be equally as enjoyable. Sometimes the reasons why people leave their job are very different, but what if there were specific trends to why some people leave more than others?

### Slide 1: Understanding Attrition at IBM

- First, employee attrition has many consequences for companies. It can lead to losing talent, lowering productivity or disrupting the workplace because of loss of employees. For my project, I focused on IBM employee data to answer the main question on who exactly are at high risk of leaving the company? What are the key factors contributing to attrition for workers, and what actions and steps could be taken by HR to reduce the turn over rates.
- Then, I looked at factors such as demographics, job related variables, satisfaction levels, and performance at work to predict attrition and provide recommendations to help HR improve their retention at IBM.

### Slide 2: Key Findings

- The analysis started out with exploratory data analysis which first showed that 16% of employees left IBM or attrited. With that, I found key patterns with those who left, being that those who worked overtime, had single status, traveled frequently for work, and in certain jobs (like laboratory technicians), were more likely to leave. In contrast, employees who were satisfied with their job and had stronger relationships with their managers stayed at IBM.
- To predict attrition, I used a logistic regression model. Using this model, it was able to achieve 86% accuracy in the testing data, with a ROC AUC of 0.82. This showed that the model was able to distinguish between workers who stayed and left. Despite that, predicting those who actually left was more difficult, with a recall of 0.41. This meant that there were other factors at play outside of the dataset, like personal circumstances or behaviors that influenced who left the company.

### Slide 3: Recommendations for IBM's HR

- Overall, these findings showed that workplace conditions and satisfaction at work were what drove attrition. Some recommendations I have for IBM's HR would be to reduce their turnover rates by limiting overtime hours to ease burn out, improve engagement, and add programs that support career development. I would also suggest HR to keep an eye out for those who are at high risk to leave, such as those who were single and traveled a lot for work.
- For future predictions and models, adding behavioral data like survey responses or workload trends could help improve how accurate the predictions for attrition can be.
- Overall, the project showed me how data and modeling reveal key factors that influence why employees leave and how companies can improve the workplace.