ETHICAL CONSIDERATIONS

When deploying the predictive model in a real world company setting, ethical considerations become crucial especially regarding bias and fairness.

Potential Biases:

Even though the model uses the Breast Cancer dataset, in a corporate deployment context (e.g., for issue prioritization), the equivalent data may reflect imbalances—such as underrepresented departments, geographic locations, or roles. For example, if historical issue tracking data disproportionately originates from one team or region, the model might learn that similar profiles correlate with high or low priority—regardless of the actual issue severity. This could lead to unfair prioritization, where issues raised by smaller or less-visible teams are consistently ranked as lower priority.

Addressing Bias with IBM AI Fairness 360:

IBM AI Fairness 360 (AIF360) is an open-source toolkit designed to detect and mitigate bias in machine learning models. It provides metrics like disparate impact and statistical parity difference to evaluate whether certain groups are being treated unfairly. With AIF360, you can:

- ✓ Audit your model's predictions for signs of group-based bias.
- ✓ Apply pre-processing techniques (like reweighting) to balance the dataset.
- ✓ Use in-processing or post-processing algorithms to adjust model behavior while maintaining accuracy.

By integrating such fairness tools, companies can ensure their AI systems operate responsibly—minimizing harm, improving trust, and promoting inclusive outcomes across all user groups.