**Breast Cancer 1**

**1.Does the scatterplot show strong evidence of a linear relationship between the data? Based on your answer, would you recommend a linear classifier or something more complex to best fit this data?**

The scatterplot shows a weak relationship between the data.I would recommend a more complex model since the data show dispersed pattern.

**2. Summary describing each feature to demonstrate your knowledge of key features used in this model.**

**Clump Thickness**: Refers to the thickness of cell clusters, with benign cells tending to be grouped in monolayers while malignant cells often form multilayers[.](https://elifesciences.org/articles/26957" \t "_blank)

**Uniformity of Cell Size**: Describes how consistent cell sizes are within a sample, with cancer cells often showing more variability in size compared to normal cells.

**Uniformity of Cell Shape**: Indicates how similar cell shapes are, with malignant cells typically displaying more irregularity and variation in shape.

**Marginal Adhesion**: Measures how well cells adhere to each other at the edges of cell clusters, with loss of adhesion being associated with malignancy.

**Single Epithelial Cell Size**: Refers to the size of individual epithelial cells, with enlarged cells potentially indicating malignancy.

**Bare Nuclei**: Describes nuclei that lack surrounding cytoplasm, which can be a sign of rapid cell division in cancer.

**Bland Chromatin**: Refers to the texture of the nucleus, with a uniform texture being more indicative of benign cells.

**Normal Nucleoli**: Describes the size and number of nucleoli, with enlarged or numerous nucleoli often seen in cancer cells.

**Mitoses**: Indicates the rate of cell division, with higher rates potentially signaling malignant growth.

**Class**: The diagnostic outcome, is typically categorized as benign or malignant.

REFFERENCE

<https://elifesciences.org/articles/26957>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5876018/>