**Christ (Deemed to be University), Bengaluru.**

**MAI272 - Advanced Machine Learning**

**Lab Exercise 3**

**Department of Computer Science**

P3. Choose a dataset within your domain of interest (e.g., healthcare, finance, education, sports) that contains multiple features. Perform a feature selection task using at least two feature selection techniques, such as Low Variance Filter, High Correlation Filter (HCF), or Principal Component Analysis (PCA).

Steps:

1. Data Preparation: Preprocess your dataset to ensure it's suitable for analysis (e.g., handling missing values, encoding categorical variables).
2. Feature Selection:
   * Apply two feature selection techniques to your dataset.
   * Compare the results from each technique, noting which features were selected or removed.
3. Model Training:
   * Train a simple model (e.g., Linear Regression or Decision Tree) using the selected features.
   * Evaluate the model’s performance and discuss how feature selection influenced the results.

**Evaluation Rubrics:**

Correctness and Clarity – 3 marks. Complexity and Validation – 3 marks.

Code & Concept Knowledge and Viva Voice – 2+2 marks.

**Submission Guidelines:**

* Generate the single .pdf file for the given questions separately. File name should be your register number followed by the program number. (Eg. 2447235\_4)
* Upload the pdf files in Google Classroom on or before the deadline mentioned.