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# Task 1.2

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| *Figure 1: Graph of Correlation Matrix* |
| According to figure 1, we can observe that the first element in feature vector has low negative correlation relationship ( -0.5 as the lower bound) with the rest of the 23 features. Most entries closing to the diagonal in figure 1 is red, implying that most of them are highly positive correlated to their adjacent features. A majority of features have very low positive correlation with one another. |

# Task 1.3

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| *Figure 2: Data on 2D-PCA Plane* |

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| *Figure 3: Graph of Cumulative Variance* |

# Task 1.4

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| *Figure 4: Graph of Accuracy of classification against for each CovKinds[[1]](#footnote-1)* |
| According to Figure 4, we can say that full covariance matrix has the highest correct classification rate, followed by Covkind 3 and 2. |

# Task 1.5

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| *Figure 5: Graph of Epsilon against Classification Accuracy* |
| According to Figure 5, there is an obvious descending trend for classification accuracy of the data using full covariance matrix as Epsilon increases. |

1. The accuracy is calculated as the trace of the final confusion matrix (sum of main diagonal) for each CovKind. [↑](#footnote-ref-1)