

LIST OF FIGURES

Figure 1.1 Conceptual framework.....	2
Figure 2.1 Morphology of QRS complex (source: [14]).	4
Figure 2.2 Difference between normal heart rate (above) and atrial fibrillation (below). In atrial fibrillation, there are no P waves (source: [17]).....	5
Figure 2.3 Onset and termination of a short AF episode (source: [9]).....	6
Figure 2.4 Boosting base learning procedure (source: [21]).	6
Figure 2.5 Bagging base learning procedure (source: [21]).....	7
Figure 3.1 Research design diagram.	10
Figure 3.2 Experiment design and plan diagram.	11
Figure 3.3 Implementation design diagram.	14
Figure 4.1 Fiducial points obtained from ECG. The normal ECG on the top and the AF ECG on the bottom.....	16
Figure 4.2 The detail of the fiducial points on ECG signal. The normal ECG on the top and the AF ECG on the bottom.....	16
Figure 4.3 Training and validation results using the RR-interval and heart rate features.....	18
Figure 4.4 Training and validation results using all features.....	18
Figure 4.5 Feature importance of Random Forest Classifier.	19
Figure 4.6 Feature importance of Ada Boost Classifier.....	20
Figure 4.7 Feature importance of Gradient Boosting Classifier.	20
Figure 4.8 Website application page display.	24
Figure 4.9 Prediction results are displayed on the website application when predicted AF signals.	24
Figure 4.10 Prediction results are displayed on the website application when predicted normal signals.	25