

LIST OF FIGURES

2.1 Brain Computer Interface (BCI) process (a) Collecting EEG data (b) Signal EEG.	5
2.2 BCI measuring instrument (a) FMRI, (b) FNIRS, and (c) MEG.	6
2.3 Electrode placement.	7
2.4 Mean area in automatic spatial selection method.	10
2.5 Angels Occurence of GLCM.	11
2.6 Artificial Neural Network Model.	16
2.7 Back Propagation Model.	16
3.1 Flowcard system.	17
3.2 Time data collection.	18
3.3 Data collection process.	19
3.4 BR32i EEG Channel System.	19
3.5 Spatial Selection Process	20
3.6 Example of results from channel selection (a) Without channel se- lection (b) With channel selection	21
3.7 (a) Results of PSD calculations (b) Brain mapping of PSD calculations	21
3.8 Energy distribution image preprocessing.	22
3.9 Image comparison (a) RGB and (b) Grayscale.	22
3.10 GLCM flowcard.	23
3.11 Process feature selection.	23
3.12 Proces Genetic Algorithm.	24
3.13 Joint entropy Mutual Information.	25
3.14 ANN classification flowchart ANN training and ANN test.	26
4.1 The value of training accuracy and test accuracy on the EEG signal.	31
4.2 Chi-square distribution graph with Df= 10.	34
4.3 The 32 channel (a) without (b) with channel selection.	36
4.4 The 32 energy distribution image (a) without (b) with channel se- lection.	36
4.5 Comparison time complexity of feature selection methods.	38
4.6 Comparison accuracy of feature selection methods.	38