

Table of Contents

Abstract	i
Acknowledgements	ii
Table of Contents	iii
1 Introduction	1
1.1 Motivation.....	1
1.2 Structure of the Thesis.....	2
2 Connectionist Model with 1-neighborhood for Line Linking	3
2.1 Introduction.....	3
2.2 Line Linking.....	4
2.2.1 Line Detection Operator.....	5
2.2.2 Network Architecture.....	8
2.3 Programming Flowchart.....	16
2.4 Example.....	17
2.5 Experiments.....	24
3 Connectionist Model with Large Neighborhood for Line Linking	28
3.1 Introduction.....	28
3.2 Edge Linking.....	29
3.2.1 Network Architecture.....	31
3.2.2 Experiments.....	34
3.3 Line Linking.....	35
3.3.1 Strength and Direction.....	35
3.3.2 Network Architecture.....	39
3.3.3 Programming Flowchart.....	45
3.3.4 Experiments.....	46
4 Seismic Horizon Linking	52
4.1 Introduction.....	52
4.2 Preprocessing.....	52
4.3 Pattern Search.....	56
4.4 Experiments.....	61
5 Conclusion	102
Reference	103