

Anaylisis of Genetic Algorithms Optimizing Topological Layout and Synaptic Weights

Taras Mychaskiw(xxxxxxx) <tm07qx@brocku.ca>

Evan Verworn (4582938) <ev09qz@brocku.ca>

Abstract—This report is to show the uses of a Self Organizing Feature Map in cases of clustering. The Self Organizing Maps are then analyzed using density based clustering modelling and cluster validation using the Dunn Index.

I. INTRODUCTION

THE purpose of this assignment is for use to show that we understand Self Organizing Maps and methods of performing analysis on the results. Self Organizing Maps also are useful for reducing the curse of dimensionality problem that arises within other ANNs by eliminating data points that are too similar or outliers.

II. BACKGROUND

A. Neural Networks

B. Genetic Algorithms

III. METHODOLOGY

A. Mutations

Our custom mutations.

B. Crossovers

Our custom crossovers.

IV. EXPERIMENTS

A. Connect 4

Description of Connect 4 Problem

B. Quality of Wines

Description of Wines Problem

C. Experiment Setup

Parameters Used.

V. ANALYSIS

Results

VI. CONCLUSION

Things could have done better.

We believe this is due to crossovers used.

Blah-de-Blah.

REFERENCES

- [1] Kohonen, T. (2001). Self-Organizing Maps. Third, extended edition. Springer, Berlin.
- [2] Dunn, J. (1974). "Well separated clusters and optimal fuzzy partitions". Journal of Cybernetics 4