Computational Intelligence & Adversarial Machine Learning:

Assignment #4: Probing via an EC

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Assignment #4

(Due 11/15/2018)

Assignment #4

- Given your best machine learning technique developed in Homework #3 and your Evolutionary Computations (ECs):
  - A Steady-State GA
  - An Elitist GA
  - An Estimation of Distribution Algorithm

  Develop a real-coded variant of these in an effort to probe your machine learning technique. Your group will need to plot the on-line performance of your three EC Probers. Your objective is to evolve a population of feature vectors such that you can probe your machine learning to determine what type of feature vectors will cause:

  a. exactly one author to will be selected as being associated with that feature vector
  b. exactly two authors to be associated with a feature vector
  c. exactly three authors to be associated with a particular feature vector
- The evaluation function should be one that allows you to do a, b, c (we'll go over this in class).

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Assignment #3

(Due 11/15/2018)

Assignment #3 (Grading)

- [60pts] For the on-line plots of the three Evolutionary Probers on the three probing problems.
- [10pts] What did you learn from Dr. King's Lecture
- [30pts] Develop the paper.

Assignment #4

(Due 11/15/2018)

Assignment #3 (cont.)

- Write a paper using IEEE or AAAI format documenting your work:
  I. Title
  II. Authors
  III. Abstract
  IV. Introduction
  V. Methodology
  VI. Experiment
  VII. Results
  VIII. Breakdown of the Work
  IX. References

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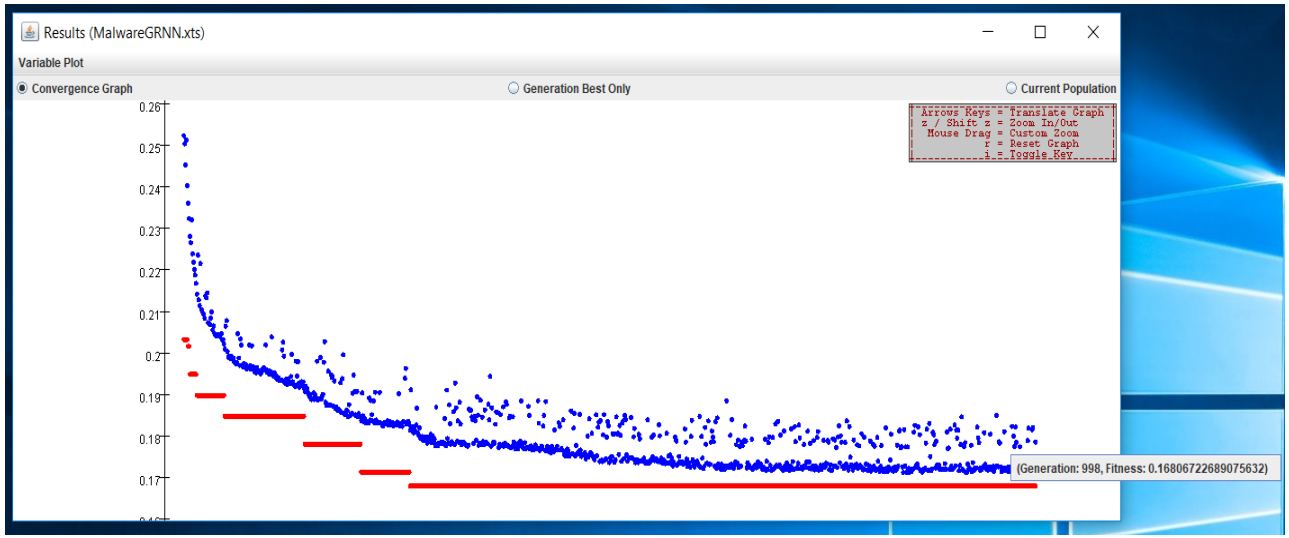
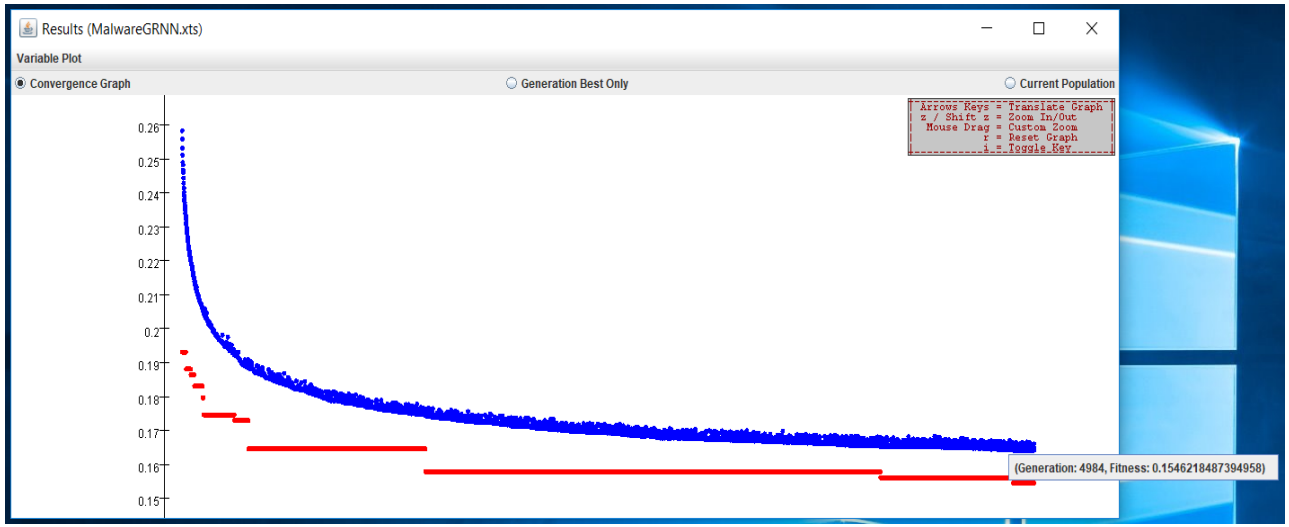
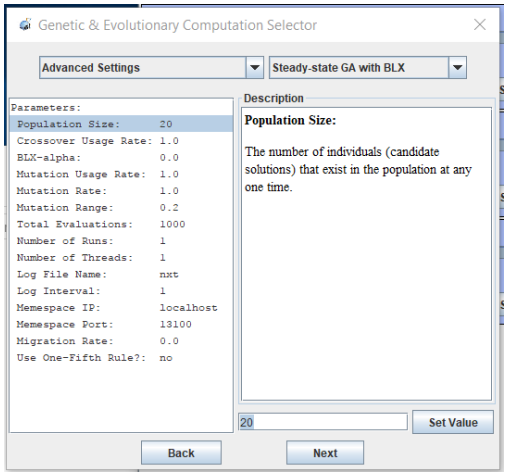
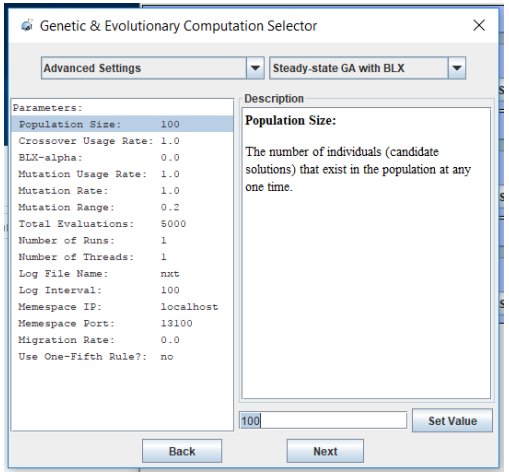
Assignment #4

(Some Example Results)









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Have a Great Day!!!

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