Genetic Algorithm Paper Title

An awesome paper written by Travis Smith and Chris Terry

# Abstract

*This one paragragh description of our paper will need to be written after the rest of the paper is written, so this is just a placeholder ha ha ha… also note this text appears different than the rest of the paper.*

# Introduction

A short 2-3 paragraph introduction introducing the main idea of the paper

You could refer to authors here

Also include a paragraph listing the main sections for the rest of the  
paper.

# Algorithm

There are two different algorithms used for these experiments. One algorithm will take the target string and use its length to generate a population of random strings of that length. This population is then measured against the target using the fitness function, the individuals that are selected are then mutated, with a small selection undergoing crossover. This corresponds to asexual and sexual reproduction. The mutated individual is kept in the population as well as its mutation, while the crossover selects a random crossover point and returns the four possible combinations of the two individuals. For example if the individuals are {ABC, abc} and the crossover point divides them after the first character, the results would be {Abc, aBC, bcA, BCa}. The mutation selects a random character from the string and changes it to either the character before or after it.

The other algorithm used differs in a few important ways. The population generated consists of various length binary strings. The binary string is then used to generate a character string. The character string generated is what the fitness test ‘grades’. The fitness test grades the strings based on length and content. The closer they are to the target the better their grade is. A selection of the population is made which will breed. The breeding is random among the selection, and consists of a crossover similar to the other algorithm, except the crossover point is limited to the length of the shorter of the two strings as the length is not predetermined.

~~A short description of the main algorithm of the paper~~

~~You could refer to authors here~~

~~1-3 paragraphs~~

# Experiments

This is the longest section of the paper

Several paragraphs

Should contain a general introduction for all of the experiments

List the main experiments that will be run

List the default parameters

All experiments should use these parameters

Except that you vary **only** **one** of these parameters for each experiment

* 1. paragraphs for each experiment run

Each experiment should have a sub-heading so it’s clear what the main variable is

List the purpose of the experiment

List the variable that will be varied

Reference the table or graph that shows the results

Discuss the results of the experiment

Try to explain why

I’m not looking for perfection here; just show me that you’ve tried to think about this.

# Conclusion and Future work

Here you give a general explanation of all the experiments run

Don’t re-explain what you did in the Experiments section

Discuss general conclusions

Future Work

Discuss anything you think would be interesting to explore that you didn’t have time for

Talk about any other aspects of the project you wish to discuss

# References

You should include at least one reference that discusses genetic algorithms

Even if it’s just the slides on the download area

If you used any other references to help you with your understanding, include these as well.

References should be mentioned somewhere in the paper

References should be numbered and referred to by listing the number in brackets.

Ex: Peterson and Lowell [2] discuss some interesting ideas.

Then list the reference at the end of the paper. With the bracket in front