**Abstract**

Short description of the project and the main conclusions

**Introduction**

Summarise objectives

Problems solved to achieve the objectives

Methods

Results

Achievements and limits

Sketching organisation of dissertation

**Research Section / Background**

Bio-inspired Computing

Availability of Bio-inspired Algorithms in R

Genetic Programming

CGP in other languages

**Discussion of Implementation**

**Steps taken in designing the software**

CGP in other languages + RGP helped with designing

Maybe add requirements into here?

Previous Project using R to implement Evolutionary Algorithm meant I already had a program structure that worked, and I was familiar with

Trying to represent the structure of the chromosome using an appropriate Data Structure in R. Should have used lists but chose to use Data Frames due to the interface provided in RStudio for working with them.

Diagrams of structure of population will be useful to include here

Creation of R package section from last hand in + new knowledge

Choosing other R packages that will aid in development (Already wrote this section)

Implementing Unit Tests confirmed that code needed refactored / restructured (took inspiration from RGP here)

**Issues Faced During Implementation**

Issues faced with using data frames vs lists

Issues faced with R scoping / environments

Issues with checking valid inputs (biased results and NA values caused problems)

**Evaluation**

Report on performance evaluation and any experimental work carried out

Compare what I have achieved to the initial aims

Compare functionality produced to the requirements

Cover software correctness i.e. Unit Tests

Compare implementations more critical aspects to implementations of CGP in other langauges

Potentially assess my implementation of CGP as a Data Mining tool against other Data Mining paradigms such as decision trees, clustering…

Usability study results

**Conclusions**

Briefly mention achievements compared to aims again

Cover the main limitations of what I have produced

Suggest possible extensions of what I have produced and further work