

# [Insert Title]

David Donatucci, M. Kirbie Dramdahl, and Nicholas Freitag McPhee

Division of Science and Mathematics

University of Minnesota, Morris

Morris, MN 56267

donat056@morris.umn.edu

dramd002@morris.umn.edu

mcphee@morris.umn.edu

## **Abstract**

- Explain the idea of XO bias, where it came from and why
- XO bias rates
- Does seem to improve performance in certain circumstances
- Doesn't always improve things
- Probably depends on things like tournament size and elitism and pop size
- May depend the difference in parental fitness
- May increase selection pressure and (premature) convergence
- Applied to many problems of different types

# **1 Introduction**

# **2 Genetic Programming**

# **3 Graph Databases**

# **4 Experimental Setup**

## **4.1 Genetic Programming Setup**

## **4.2 Neo4j Setup**

# **5 Results**

## **5.1 Number of Initial Individuals With Final Generation Descendants**

## **5.2 Effectiveness of Mutation and Crossover**

## **5.3 Winning Root Ancestry Line Fitness**

## **5.4 Most Recent Common Ancestor**

# **6 Conclusions**

# **Acknowledgements**

## References