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The Effects of Visual and Design Features on the Perception of Correlation in Scatterplots

A thesis submitted to the University of Manchester for the degree of
Doctor of Philosophy
in the Faculty of Science and Engineering

2024

Gabriel Strain
Department of Computer Science

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Abstract

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Chapter 1

Introduction

1.1 Research Motivation

1.2 Contributions

1.3 Overview of Thesis

Chapter 2

Literature Review

Chapter 3

General Methodology

Chapter 4

**Adjusting the Opacities of Scatterplot Points
Can Affect Correlation Estimates**

Chapter 5

**Adjusting the Sizes of Scatterplot Points Can
Correct for a Historic Correlation
Underestimation Bias**

Chapter 6

Interactions of Opacity and Size Adjustments

Chapter 7

Scatterplots Optimised for Correlation Perception Affect Beliefs About Correlations and Attitudes Towards Trivial Topics

Chapter 8

Conclusion

Appendices

Appendix A

First appendix

A.1 Section in Appendix

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