# Beyond the Thermodynamic Hypothesis

# Max Ward School of Computer Science & Software Engineering The University of Western Australia

May 3, 2014

### Abstract

Analysis of thermodynamically based algorithms for RNA structure prediction

Keywords: Ribonucleic acid, structure, prediction, thermodynamic hypothesis.

**CR Classification:** J.3 Biology and genetics.

# Contents

1	Introduction		3
	1.1	Motivation	3
	1.2	Relevant Algorithms	3
2	Materials and Methods		3
	2.1	Environment	3
	2.2	Data Set	3
	2.3	Algorithms	3
	2.4	Additional Software	3
	2.5	Accuracy	4
3	Res	sults	4
	3.1	Accuracy	4
		3.1.1 Small RNA	4
		3.1.2 Moderate RNA	4
		3.1.3 Large RNA	4
	3.2	Time	4
4	Dis	cussion	4
5	Cor	nclusions	4

# List of Figures

# 1 Introduction

### 1.1 Motivation

mention hypothesis at end, which is that new algorithms have improved accuracy over older algorithms. As a secondary supposition, they should scale no worse than older algorithms.

## 1.2 Relevant Algorithms

Explain in high level terms the three algorithms tested

# 2 Materials and Methods

## 2.1 Environment

How I tested it

### 2.2 Data Set

Strand stuff

## 2.3 Algorithms

Config and stuff

### 2.4 Additional Software

gretl etc

## 2.5 Accuracy

explain f score and why it is useful for us

- 3 Results
- 3.1 Accuracy
- 3.1.1 Small RNA
- 3.1.2 Moderate RNA
- 3.1.3 Large RNA
- **3.2** Time
- 4 Discussion
- 5 Conclusions