UNIVERZITA KOMENSKÉHO V BRATISLAVE FAKULTA MATEMATIKY, FYZIKY A INFORMATIKY

GENOME COMPARISON BASED ON RAW READ AND PAIRED READ DATA. DIPLOMA THESIS

2016 Vladimír Macko

UNIVERZITA KOMENSKÉHO V BRATISLAVE FAKULTA MATEMATIKY, FYZIKY A INFORMATIKY

GENOME COMPARISON BASED ON RAW READ AND PAIRED READ DATA.

DIPLOMA THESIS

Študijný program: Informatika

Študijný odbor: 2508 Informatika

Školiace pracovisko: Katedra informatiky

Školiteľ: Mgr. Tomáš Vinař, PhD

Bratislava, 2016

Vladimír Macko



Abstrakt

Kľúčové slová:

Abstract

Keywords:

Obsah

Introduction			1
1	Genome differences		2
	1.1	Definitions 2-3p	2
	1.2	Comparative genomic 1-2p	2
	1.3	Probabilistic approach 2-4	2
	1.4	Genome alignments 3-4	2
	1.5	Evaluation 2-3	2
2	Read statistics		
	2.1	Reads 1-2	3
	2.2	Paired reads 1-2	3
	2.3	Benchmarks 3-4	3
3	Catchy name for our tool that will be implemented.		
	3.1	Probabilistic model for differences 8	4
	3.2	Implementation problems 8	4
	3.3	Used Data 3	4
	3.4	Results 12	4
	3.5	Future improvements 5	4
4	Dis	cussion 3	5
A	Appendix A		

Zoznam obrázkov

Zoznam tabuliek

Introduction

Genome differences

1.1 Definitions 2-3p

Here we define theory necessary to for this thesis.

1.2 Comparative genomic 1-2p

Here we show some of current methods used in comparative genomic, which studies the differences between genomes.

1.3 Probabilistic approach 2-4

1.4 Genome alignments 3-4

Brief mentions of current genome alignments approaches.

1.5 Evaluation 2-3

Here we discuss what metrics we want to improve and what is the measure of success for our solution.

Read statistics

Here we evaluate some statistics about commonly used data. Here we evaluate current used methods and set benchmarks for our solution.

2.1 Reads 1-2

Here we evaluate data for reads and we set our expectations about these data.

2.2 Paired reads 1-2

Here we evaluate data for paired reads and we set our expectations about these data.

2.3 Benchmarks 3-4

Here we benchmark some used tools for our problem.

Catchy name for our tool that will be implemented.

- 3.1 Probabilistic model for differences 8
- 3.2 Implementation problems 8
- 3.3 Used Data 3
- 3.4 Results 12
- 3.5 Future improvements 5

Discussion 3

Here we will discuss.

Literatúra

[1] Sample paper.

Appendix A

TODO