# 研究背景与现状（现阶段的实际效果与劣势）

## 由于测序技术的发展导致数据量增大

# 生物序列特性

# SSE指令-模拟指令介绍

## 字长比较

## 字长匹配

## 字长翻转

## 字长CRC码计算

# IEPSM算法

## IEPSM1

## IEPSM2

# 算法实验

## 实验一 优化参数选择（2）

## 实验二 算法对比（2）

# 云平台下的算法集成

## 系统工作流程

## 系统演示

|  |  |  |
| --- | --- | --- |
| 类别 | 算法 | 参考文献 |
| 针对生物学序列 | tvsbs | R. Thathoo and A. Virmani and S. S. Lakshmi and N. Balakrishnan and K. Sekar. TVSBS: A Fast Exact Pattern Matching Algorithm for Biological Sequences. J. Indian Acad. Sci., Current Sci., vol.91, n.1, pp.47--53, (2006). |
| 基于前缀搜索 | Ufndmq | B. Durian and J. Holub and H. Peltola and J. Tarhio. Tuning BNDM with q-Grams. Proceedings of the Workshop on Algorithm Engineering and Experiments, ALENEX 2009, pp.29--37, SIAM, New York, New York, USA, (2009). |
| 基于后缀搜索 | Hashq | T. Lecroq. Fast exact string matching algorithms. ipl, vol.102, n.6, pp.229--235, Elsevier North-Holland, Inc., Amsterdam, The Netherlands, The Netherlands, (2007). |
| 基于子串搜索 | Fsbndmq | H. Peltola and J. Tarhio. Variations of Forward-SBNDM. Proceedings of the Prague Stringology Conference '11, pp.3--14, Czech Technical University, Prague, Czech Republic, (2011). |
| 基于SIMD指令 | Ssecp | Ben-Kiki O, Bille P, Breslauer D, et al. Optimal packed string matching[C]. IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, 2011, vol.13:423-432 |

|  |  |  |
| --- | --- | --- |
| 类别 | 算法 |  |
| 针对生物学序列 | tvsbs | R. Thathoo and A. Virmani and S. S. Lakshmi and N. Balakrishnan and K. Sekar. TVSBS: A Fast Exact Pattern Matching Algorithm for Biological Sequences. J. Indian Acad. Sci., Current Sci., vol.91, n.1, pp.47--53, (2006). |
| 基于前缀搜索 | Ufndmq | B. Durian and J. Holub and H. Peltola and J. Tarhio. Tuning BNDM with q-Grams. Proceedings of the Workshop on Algorithm Engineering and Experiments, ALENEX 2009, pp.29--37, SIAM, New York, New York, USA, (2009). |
| 基于后缀搜索 | Hashq | T. Lecroq. Fast exact string matching algorithms. ipl, vol.102, n.6, pp.229--235, Elsevier North-Holland, Inc., Amsterdam, The Netherlands, The Netherlands, (2007). |
| 基于子串搜索 | Fsbndmq | H. Peltola and J. Tarhio. Variations of Forward-SBNDM. Proceedings of the Prague Stringology Conference '11, pp.3--14, Czech Technical University, Prague, Czech Republic, (2011). |
| 基于SIMD指令 | Ssecp | Ben-Kiki O, Bille P, Breslauer D, et al. Optimal packed string matching[C]. IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, 2011, vol.13:423-432 |