PRESENTATION OUTLINE: — GPU-Based Accelerations for Protein Sequence Alignment Using BLAST —

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1 Introduction

- Title of presentation
- Presentation outline

2 Background of Sequence Alignment

- What is protein sequence alignment?
- Why is it important?
- How is it used and what tools exist?
- What problems exist with sequence alignment tools?

3 Introduction to BLAST

- What is BLAST?
- Why is BLAST so common?
- BLAST, databases, and the need for acceleration.
- GPUs for acceleration.

4 BLAST Algorithm

- Step 1: Hit detection and seeding
- Step 2: Ungapped seed extension
- Step 3: Gapped seed extension
- Step 4: Traceback and output

5 GPU Implementations of BLAST

- List of GPU methods to accelerate BLAST.
- BLAST algorithm steps targeted for speedup.
- Comparisons of reported speedups.
- Objective of this research.

6 Independently Evaluated Speedup Comparisons

- Description of hardware used and methods implemented.
- Description of tests performed.
- Speedup results.

7 Concluding Remarks

- Discussion of results
- Advantages/Disadvatages of GPU methods
- Conclusion

8 References

- Research sources
- Thank you, questions, contact information.

Note: each item roughly represents a slide for each section. Actual presentation might differ from outline.