Real-time tomographic reconstruction
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Stellingen

Stellingen behorend bij het proefschrift getiteld: *"Real-time tomographic reconstruction"*.

1. For many use cases in 3D image reconstruction, the user does not require access to a full 3D volume reconstruction. Having access to the quantitative and qualitative information present in quasi-3D reconstruction is already sufficient.

2. Besides reducing reconstruction times, the quasi-3D methodology can also aid in reducing the computational cost of post-processing and analysis steps. This can lead to a complete real-time tomographic imaging pipeline.

3. Data partitioning methods can benefit greatly from domain-specific information instead of exclusively looking at the nonzero pattern of the matrix.

4. The penalty in partitioning quality by only looking at axis-aligned cuboid partitionings is minimal for the majority of common acquisition geometries.

5. There should be more emphasis on the computational efficiency and feasibility of new algorithms in imaging science.

6. Machine learning methods for (tomographic) imaging will only realize their full potential when they incorporate knowledge of the physical system, and insights gained from classical modeling and analysis.

7. Although bulk synchronizations have become relatively more expensive on modern hardware with many cores, the BSP model will remain an important tool for performing performance analysis of general parallel algorithms.

8. There is no such thing as a timeless parallel algorithm.

9. Peer-reviewed scientific software packages deserve more recognition as scientific output.

10. Teaching and presenting is crucial for developing as a young researcher.