
Parallel aggregation algorithm for the visualization of human verbal and non-verbal data

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In this article the method for visualization of human verbal and nonverbal behavioural features which represent high-dimensional data is examined. The model and the algorithm for the visualization of these data using the parallel aggregation method are presented. The aggregation function calculating the extremums of data chunks based on the optimized reduction tree algorithm is suggested. This allows approaching the complexity of the overall algorithm to its minimum. Optimization is achieved by the mapping of data to the video processor global memory, processing more data per thread and using fewer threads per block. A comparative study of the throughput of a CPU and two series of a GPU, executing the developed algorithm, is conducted and its results are presented.

Keywords: *data visualization, biometric data, high-dimensional data, GPU, reduction tree.*

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