

# Topic 8: Distributed Systems and Algorithms

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Fifteen papers were submitted to Topic 8. Each paper was reviewed by four of the topic chairs (a single paper received only three reviews). Three papers were ranked clearly above the others and three others were discussed in more depth between the chairs. As a result, the chairs proposed three papers for acceptance, and two more for discussion, one of which was accepted by the PC meeting.

It is interesting to note that none of the top papers is a “hard-core” distributed systems paper, i.e., this year, there will be no papers on consensus, fault tolerance, or distributed algorithms. Instead all four papers focus on applications of distributed systems. This is not due to any particular bias by the committee, but simply reflects the quality and the spectrum of the submissions we received.

We are proud that a paper in this topic has won a Best Paper award. The article *Automatic Prefetching with Binary Code Rewriting in Object-based DSMs* focuses on reducing the number faults in a Distributed Shared Memory (DSM) system. To achieve this goal, the authors use a profiler that monitors the access behavior of the application, and a dynamic binary rewriter that inserts appropriate prefetch instructions. Evaluation results show an important reduction of the number of messages and high performance gains on the benchmarks. The program committee judged the approach original and well evaluated.

The paper *A PGAS-based Algorithm for the Longest Common Subsequence Problem* focuses on parallelising a well known algorithm. The authors use the Partitioned Global Address Space (PGAS) programming model, to improve data and workload distributions in the Longest Common Subsequence problem.

A practical evaluation of the Cell Broadband Engine running parallel data mining algorithms is presented in the paper *Data Mining Algorithms on the Cell Broadband Engine*.

Finally, the efficient management of striped files and files with complex data structures in active storage is presented in the paper titled *Efficient Management of (Complex) Striped Files in Active Storage*.

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