

| System          | Dataset   | Model | # of nodes | Baseline Time (s) | Algorithm | Algo. Time (s) | Speedup             |
|-----------------|-----------|-------|------------|-------------------|-----------|----------------|---------------------|
| 3*Piz Daint     | 3*Webspam | LR    | 32         | 2.40 (2.16)       | 3*        | 0.68 (0.35)    | <b>3.53 (6.1)</b>   |
|                 |           | SVM   | 32         | 1.62 (1.42)       |           | 0.65 (0.44)    | <b>2.49 (3.2)</b>   |
| 3*Piz Daint     | 3*URL     | LR    | 32         | 2.64 (2.58)       | 3*        | 0.75 (0.70)    | <b>3.52 (3.6)</b>   |
|                 |           | SVM   | 32         | 1.98 (1.93)       |           | 0.56 (0.53)    | <b>3.54 (3.6)</b>   |
| 2*Piz Daint     | Webspam   | LR    | 8          | 4.67 (3.79)       | 2*        | 2.56 (1.58)    | <b>1.82 (2.4)</b>   |
|                 | URL       | LR    | 8          | 3.77 (3.53)       |           | 2.09 (1.50)    | <b>1.80 (2.3)</b>   |
| 2*Greina (IB)   | Webspam   | LR    | 8          | 6.52 (4.67)       | 2*        | 3.63 (1.90)    | <b>1.80 (2.4)</b>   |
|                 | URL       | LR    | 8          | 8.14 (4.47)       |           | 6.11 (2.49)    | <b>1.33 (1.8)</b>   |
| 2*Greina (GigE) | Webspam   | LR    | 8          | 76.80 (75.95)     | 2*        | 3.79 (2.95)    | <b>20.26 (25.7)</b> |
|                 | URL       | LR    | 8          | 104.50 (100.46)   |           | 8.26 (4.22)    | <b>12.65 (23.8)</b> |

Table 1: Distributed optimization using MPI-OPT. The times are averages for a full dataset pass, with the communication part in brackets. Speedup versus dense MPI is shown end-to-end, with communication speedup in brackets.