Design and Analysis of Processing-in-Memory Sorting Algorithms using UPMEM

- We present the design principles necessary for the effective implementation of sorting algorithms utilizing UPMEM.

- We conduct a comparative analysis between two sorting algorithms implemented specifically tailored for execution within the DPUs of UPMEM.

- We design and implement two proposals to address the CPU-DPU communication problem.

- We conduct a comparative analysis between our implementation and the state-of-the-art quicksort algorithm.