

# Efficient Distributed SDCA

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# Overview

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# Problem Overview

- Implement SDCA using a GPU
- Two versions:
  - Sequential - uses GPU for vector operations
  - Distributed - perform updates on multiple dimensions in parallel

# Issues We Encountered

- Memory allocation
  - Initial implementation allocated memory on the GPU each time it was needed
  - Improved implementation used static pointers to locations on the GPU's memory
  - In a test dataset, this reduced the number of memory allocations from 200,000 to 3 allocations
- Algorithm verification