Computing with a big (0, 1)-matrix

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motivation

Sparse graph

Social network

Sparse matrix operator

Neural network
why now?
space and cache
existing sparse matrix representation

Dictionary of keys (dok)

Compressed column storage (CCS)

Block sparse row (BSR)
our requirements

Bits instead of int64 or float64

fast dot product

vectors instead of scalars or blocks

orderedness
hashmap or simple list?
current progress

Implementation done (based on ordered hashmap)

Benchmark need to be done

Simple array may be more efficient