Additional Topics for the Final Exam

CS 220
Fall, 2017

In addition to the material covered on the first two midterms, any of the following topics may be covered on the final exam.

- **Cache**
  - Speed of Processors vs speed of memory access
  - Temporal and spatial locality
  - Cache line
  - Cache hit, miss
  - Write-through vs write-back cache

- **Cache and Shared Memory**
  - Cache coherence problem
  - Snoopy cache coherence
  - False sharing

- **Shared memory MIMD**
  - Implementations of barriers
  - Threadsafety
  - Implementations of a shared linked list

- **Pthreads**
  - Condition variables
- Pthreads barriers
- Read-write locks

- C
  - fgets
    - static storage class

- Life
  - Submatrix distribution
  - Finding submatrix given thread rank

- GPUs, GPGPU, CUDA
  - Nvidia architecture: SM, core, shared memory, global memory
  - Hardware context switch
  - Thread block
  - CUDA kernel