Lecture 9 - Prefetching
What to prefetch on?

- Patterns of memory accesses (history):
  - Stride between misses (up/down)
  - General correlations
- Speculative threads
- Program counter / control flow
- Static model
- You can be told to prefetch
- Data
- Other processor or thread behavior
When to prefetch?

- Misses
  - The game is already lost!
  - Good enough
  - Information overload
- Which information stream has the right data in it? Misses or hits or accesses?
Pitfalls?

- Waste of bandwidth
- Extra stuff:
  - Power, area, complexity
  - Traffic on coherence bus
  - Potentially hurt someone else in a MP system