

Presentation Outline:

- Intro to problem
- Examples of graph algorithms
- Graph density
- Static graphs vs. Dynamic graphs
 - Compressed Sparse Array
- What makes a graph dynamic? (insert/delete/query)
 - Cost of inserts when edge list is sorted (linear vs logarithmic)
 - Cost to maintain sorted list
- Brief history of dynamic graphs on the GPU
 - GPU packed memory array
 - Hornet
 - faimGraph
- This technique: Dynamic graph using Hash Table
 - Memory layout: Linear vertex list, buckets
 - Link list of slabs
 - Costs
 - Batch building of graph
- Parts I'm still working on:
 - Concurrency issues during insert
 - Duplicate keys
 - Value store or not
 - Intra-warp communication
 - Warp cooperative work sharing strategy
 - Results: Performance graphs
 - Conclusion