





Load Balancing Eager K-truss on GPU and CPU via Fine-Grained Parallelism

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Previously: Eager K-Truss





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Enumerate triangles in parallel over edges grouped by source vertex



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Load imbalance occurs between threads processing different outgoing neighborhoods!

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T.M. Low et al. "Linear Algebraic Formulation of Edge-centric K-truss Algorithms with Adjacency Matrices" IEEE HPEC 2018



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M.P. Blanco, T.M. Low, and K. Kim, "Exploration of Fine-Grained Parallelism for Load Balancing Eager K-truss on GPU and CPU", IEEE HPEC 2019

Results: Performance on Tesla VI00 GPU with Kokkos



Fine-grained parallelism from edge-based tasks yields 16.9x - 9.9x speedup on GPU

M.P. Blanco, T.M. Low, and K. Kim, "Exploration of Fine-Grained Parallelism for Load Balancing Eager K-truss on GPU and CPU", IEEE HPEC 2019

4