NPTEL Video Course - Special Lecture Series - ACM Summer School on Graph Theory and Graph Algorithms (Dr. N.S

Subject Co-ordinator - Dr. N.S. Narayanaswamy

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable │ MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Basic Graph theory and Graph Algorithms - Part 1
Lecture 2 - Basic Graph theory and Graph Algorithms - Part 2
Lecture 3 - Basic Graph theory and Graph Algorithms - Part 3
Lecture 4 - Basic Graph theory and Graph Algorithms - Part 4
Lecture 5 - Basic Graph theory and Graph Algorithms - Part 5
Lecture 6 - Geometric Algorithms - Part 1
Lecture 7 - Geometric Algorithms - Part 2
Lecture 8 - Geometric Algorithms - Part 3
Lecture 9 - Geometric Algorithms - Part 4
Lecture 10 - Geometric Algorithms - Part 5
Lecture 11 - Geometric Algorithms - Part 6
Lecture 12 - Introduction to Computational Complexity,P,NP classes
Lecture 13 - NPC Reductions through examples - Part 1
Lecture 14 - NPC Reductions through examples - Part 2
Lecture 15 - NPC Reductions through examples - 3SAT
Lecture 16 - Subset Sum, Knapsack
Lecture 17 - Directed Hamiltonian Path-NPC Reduction
Lecture 18 - Introduction to LPnDuality theorem
Lecture 19 - Design of Approx.algorithms using primal dual scheme - Hitting set
Lecture 20 - Approx Vertex Cover
Lecture 21 - Appox for Min Cost VC, Approx for Min cost Set Cover
Lecture 22 - 2-factor approx for metric TSP, 1.5 Approx christofides Algo
Lecture 23 - knapsack Approx, 1/2 - factor Approx, 1- Îµ Approx
Lecture 24 - Perfect graphs,weak and strong perfect graph conjecture,line graphs,interval graphs
Lecture 25 - Î± perfection of interval graphs,chordal graphs,expansion lemma, proof for weak perfect conjectu
Lecture 26 - Î± perfection of interval graphs,chordal graphs,expansion lemma, proof for weak perfect conjectu
Lecture 27 - Comparability graph, Permutation graphs, AT-free graphs, Trapezoidal graphs, Circular arc graphs
Lecture 28 - Fixed Parameter Algorithms, -VC, Cluster vertex deletion, - Branching
Lecture 29 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing bra

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Lecture 30 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing bra
Lecture 31 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing bra
Lecture 32 - Hardness in Parameterized Complexity - W - hard reductions Exponential algorithms - Part 1
Lecture 33 - Hardness in Parameterized Complexity - W - hard reductions Exponential algorithms - Part 2

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