

- Lecture 1 - Introduction to Graph Theory - Part 1
- Lecture 2 - Introduction to Graph Theory - Part 2
- Lecture 3 - Introduction to Graph Algorithms - Part 1
- Lecture 4 - Introduction to Graph Algorithms - Part 2
- Lecture 5 - Havel Hakimi Theorem - Part 1
- Lecture 6 - Havel Hakimi Theorem - Part 2
- Lecture 7 - Havel Hakimi Theorem - Part 3
- Lecture 8 - Graph Traversals - Part 1
- Lecture 9 - Graph Traversals - Part 2
- Lecture 10 - Topological Sort and Mengers Theorem - Part 1
- Lecture 11 - Topological Sort and Mengers Theorem - Part 2
- Lecture 12 - Topological Sort and Mengers Theorem - Part 3
- Lecture 13 - Hamiltonian Graphs - Part 1
- Lecture 14 - Hamiltonian Graphs - Part 2
- Lecture 15 - Shortest path Algorithms 1 - Part 1
- Lecture 16 - Shortest path Algorithms 1 - Part 2
- Lecture 17 - Shortest path Algorithms 1 - Part 3
- Lecture 18 - Shortest path Algorithms 1 - Part 4
- Lecture 19 - Matching in Graphs - Part 1
- Lecture 20 - Matching in Graphs - Part 2
- Lecture 21 - Some Graph Theoretic Puzzles - Part 1
- Lecture 22 - Some Graph Theoretic Puzzles - Part 2
- Lecture 23 - Network Flow Algorithms - Part 1
- Lecture 24 - Network Flow Algorithms - Part 2
- Lecture 25 - Network Flow Algorithms - Part 3
- Lecture 26 - Network Flow Algorithms - Part 4
- Lecture 27 - Network Flow Algorithms - Part 5
- Lecture 28 - Network Flow Algorithms - Part 6
- Lecture 29 - Network Flows - Part 1
- Lecture 30 - Network Flows - Part 2
- Lecture 31 - Network Flows - Part 3

- [Lecture 32 - Network Flows - Part 4](#)
- [Lecture 33 - Turan's and Madjur's theorem - Part 1](#)
- [Lecture 34 - Turan's and Madjur's theorem - Part 2](#)
- [Lecture 35 - NP Computations - Part 1](#)
- [Lecture 36 - NP Computations - Part 2](#)
- [Lecture 37 - Spectral Graph Theory-I - Part 1](#)
- [Lecture 38 - Spectral Graph Theory-I - Part 2](#)
- [Lecture 39 - Spectral Graph Theory-I - Part 3](#)
- [Lecture 40 - NP Computations II - Part 1](#)
- [Lecture 41 - NP Computations II - Part 2](#)
- [Lecture 42 - Graph Coloring - Part 1](#)
- [Lecture 43 - Graph Coloring - Part 2](#)
- [Lecture 44 - Spectral Graph Theory-II - Part 1](#)
- [Lecture 45 - Spectral Graph Theory-II - Part 2](#)
- [Lecture 46 - NP Computations Reductions - Part 1](#)
- [Lecture 47 - NP Computations Reductions - Part 2](#)
- [Lecture 48 - NP Computations Reductions - Part 3](#)
- [Lecture 49 - Spectral Graph Theory-III - Part 1](#)
- [Lecture 50 - Planar Graphs - Part 1](#)
- [Lecture 51 - Planar Graphs - Part 2](#)
- [Lecture 52 - NP Computations and Approximation Algorithms - Part 1](#)
- [Lecture 53 - NP Computations and Approximation Algorithms - Part 2](#)
- [Lecture 54 - Spectral Graph Theory-IV - Part 1](#)
- [Lecture 55 - Spectral Graph Theory-IV - Part 2](#)
- [Lecture 56 - Approximation Algorithms I - Part 1](#)
- [Lecture 57 - Approximation Algorithms I - Part 2](#)
- [Lecture 58 - Social Network Analysis - Part 1](#)
- [Lecture 59 - Social Network Analysis - Part 2](#)
- [Lecture 60 - Spectral Graph Theory-V - Part 1](#)
- [Lecture 61 - Spectral Graph Theory-V - Part 2](#)
- [Lecture 62 - Approximation Algorithms II - Part 1](#)
- [Lecture 63 - Approximation Algorithms II - Part 2](#)
- [Lecture 64 - Spectral Graph Theory-VI - Part 1](#)

[Lecture 65 - Spectral Graph Theory-VI - Part 2](#)

[Lecture 66 - RSA Crypto - Part 1](#)

[Lecture 67 - RSA Crypto - Part 2](#)

[Lecture 68 - Approximation Algorithms III - Part 1](#)

[Lecture 69 - Approximation Algorithms III - Part 2](#)

[Lecture 70 - Spectral Graph Theory-VII - Part 1](#)

[Lecture 71 - Spectral Graph Theory-VII - Part 2](#)

[Lecture 72 - Exact Exponential Algorithms - Part 1](#)

[Lecture 73 - Exact Exponential Algorithms - Part 2](#)

[Lecture 74 - Interconnection Networks - Part 1](#)

[Lecture 75 - Interconnection Networks - Part 2](#)

[Lecture 76 - Kernelization - Part 1](#)

[Lecture 77 - Kernelization - Part 2](#)

[Lecture 78 - Kernelization - Part 3](#)

[Lecture 79 - Introduction to Parameterized Algorithms - Part 1](#)

[Lecture 80 - Introduction to Parameterized Algorithms - Part 2](#)

[Lecture 81 - Chardal Graphs - Part 1](#)

[Lecture 82 - Chardal Graphs - Part 2](#)

[Lecture 83 - Branching - Part 1](#)

[Lecture 84 - Branching - Part 2](#)

[Lecture 85 - Interval Graphs and Split Graphs - Part 1](#)

[Lecture 86 - Interval Graphs and Split Graphs - Part 2](#)

[Lecture 87 - Vertex cover linear vertex kernel using LP - Part 1](#)

[Lecture 88 - Vertex cover linear vertex kernel using LP - Part 2](#)

[Lecture 89 - Comparability Graphs - Part 1](#)

[Lecture 90 - Comparability Graphs - Part 2](#)

[Lecture 91 - Introduction to Randomized Algorithms and Karger's Min-cut Algorithm - Part 1](#)

[Lecture 92 - Introduction to Randomized Algorithms and Karger's Min-cut Algorithm - Part 2](#)

[Lecture 93 - Probability Methods to Ramsey Number - Part 2](#)

[Lecture 94 - Probability Methods to Ramsey Number - Part 2](#)

[Lecture 95 - Color Coding - Part 1](#)

[Lecture 96 - Color Coding - Part 2](#)

[Lecture 97 - Fast Min-cut Algorithm and its analysis - Part 1](#)

[Lecture 98 - Fast Min-cut Algorithm and its analysis - Part 2](#)

[Lecture 99 - Box Representations of Graphs - Part 1](#)

[Lecture 100 - Box Representations of Graphs - Part 2](#)

[Lecture 101 - Hardness for FPT - Part 1](#)

[Lecture 102 - Hardness for FPT - Part 2](#)

[Lecture 103 - Application of min-cut Algorithm](#)

Lecture 1 - Probability - Part 1

Lecture 2 - Probability - Part 2

Lecture 3 - Probability - Part 3

Lecture 4 - Math Foundation - Part 1

Lecture 5 - Math Foundation - Part 2

Lecture 6 - Math Foundation - Part 3

Lecture 7 - Math Foundation 2 - Part 1

Lecture 8 - Math Foundation 2 - Part 2

Lecture 9 - Math Foundation 2 - Part 3

Lecture 10 - Introduction to probability for Data science - Part 1

Lecture 11 - Introduction to probability for Data science - Part 2

Lecture 12 - Introduction to probability for Data science - Part 3

Lecture 13 - Introduction to Statistics for Data science - Part 1

Lecture 14 - Introduction to Statistics for Data science - Part 2

Lecture 15 - Introduction to Statistics for Data science - Part 3

Lecture 16 - Clustering I - Part 1

Lecture 17 - Clustering I - Part 2

Lecture 18 - Clustering I - Part 3

Lecture 19 - Clustering II - Part 1

Lecture 20 - Clustering II - Part 2

Lecture 21 - Clustering II - Part 3

Lecture 22 - Dimensionality Reduction - Part 1

Lecture 23 - Dimensionality Reduction - Part 2

Lecture 24 - Dimensionality Reduction - Part 3

Lecture 25 - Supervised Learning I - Part 1

Lecture 26 - Supervised Learning I - Part 2

Lecture 27 - Supervised Learning I - Part 3

Lecture 28 - Supervised Learning II - Part 1

Lecture 29 - Supervised Learning II - Part 2

Lecture 30 - Supervised Learning II - Part 3

Lecture 31 - Supervised Learning III - Part 1

- [Lecture 32 - Supervised Learning III - Part 2](#)
- [Lecture 33 - Supervised Learning III - Part 3](#)
- [Lecture 34 - Linear Models For Classification - Part 1](#)
- [Lecture 35 - Linear Models For Classification - Part 2](#)
- [Lecture 36 - Linear Models For Classification - Part 3](#)
- [Lecture 37 - Tree Based Methods - Part 1](#)
- [Lecture 38 - Tree Based Methods - Part 2](#)
- [Lecture 39 - SVMs - Part 1](#)
- [Lecture 40 - SVMs - Part 2](#)
- [Lecture 41 - SVMs - Part 3](#)
- [Lecture 42 - Ensemble Methods - Part 1](#)
- [Lecture 43 - Ensemble Methods - Part 2](#)
- [Lecture 44 - Ensemble Methods - Part 3](#)
- [Lecture 45 - Learning Theory - Part 1](#)
- [Lecture 46 - Learning Theory - Part 2](#)
- [Lecture 47 - Introduction to Probabilistic Modeling - Part 1](#)
- [Lecture 48 - Introduction to Probabilistic Modeling - Part 2](#)
- [Lecture 49 - Introduction to Probabilistic Modeling - Part 3](#)
- [Lecture 50 - Probabilistic/Bayesian Models for Regression - Part 1](#)
- [Lecture 51 - Probabilistic/Bayesian Models for Regression - Part 2](#)
- [Lecture 52 - Probabilistic/Bayesian Models for Regression - Part 3](#)
- [Lecture 53 - Probabilistic Classification, Latent Variable Models - Part 1](#)
- [Lecture 54 - Probabilistic Classification, Latent Variable Models - Part 2](#)
- [Lecture 55 - Probabilistic Classification, Latent Variable Models - Part 3](#)
- [Lecture 56 - Deep Learning I - Part 1](#)
- [Lecture 57 - Deep Learning I - Part 2](#)
- [Lecture 58 - Deep Learning I - Part 3](#)
- [Lecture 59 - Deep Learning II - Part 1](#)
- [Lecture 60 - Deep Learning II - Part 2](#)
- [Lecture 61 - Deep Learning II - Part 3](#)
- [Lecture 62 - Deep Learning III - Part 1](#)
- [Lecture 63 - Deep Learning III - Part 2](#)
- [Lecture 64 - Deep Learning III - Part 3](#)

[Lecture 65 - Reinforcement learning I - Part 1](#)

[Lecture 66 - Reinforcement learning I - Part 2](#)

[Lecture 67 - Reinforcement learning II - Part 1](#)

[Lecture 68 - Reinforcement learning II - Part 2](#)

[Lecture 69 - Map-Reduce and Spark - Part 1](#)

[Lecture 70 - Map-Reduce and Spark - Part 2](#)

[Lecture 71 - Map-Reduce and Spark - Part 3](#)

[Lecture 72 - Scalable Machine Learning - Part 1](#)

[Lecture 73 - Scalable Machine Learning - Part 2](#)

[Lecture 1 - Finite Automata](#)

[Lecture 2 - TMs, Halting Problems](#)

[Lecture 3 - Concurrency](#)

[Lecture 4 - Blockchain and Bitcoin](#)

[Lecture 5 - Complexity Theory](#)

[Lecture 6 - Lower Bounds, Dealing with NP hardness](#)

[Lecture 7 - Online and streaming algorithms](#)

[Lecture 8 - Zero Knowledge Proofs](#)

[Lecture 9 - Verification, Games](#)

Lecture 1 - Keynote Address

Lecture 2 - A Synopsis of 'Two Cheers'

Lecture 3 - Higher Education Among Anglo-Indians

Lecture 4 - Perception of trust, risk and intimacy among elderly Anglo-Indians living in Tollygunge home in Kolkata

Lecture 5 - The Daunting Spirit and the Empowering Voice of Eunice De Souza

Lecture 6 - Origin Myth and Anglo-Indian Identity: Exploring the Representation of the History of the Origin of Anglo-Indian community in Hugh and Colleen Gantzers Lyndsale Raj

Lecture 7 - Keynote Address

Lecture 8 - Shame and Guilt in Alison McQueens The Secret Children

Lecture 9 - Re-visiting McCluskieganj: De-hyphenating the Anglo-Indian Consciousness through Vikas Kumar Jhas Novel

Lecture 10 - The Imaging of the Anglo-Indian Woman in Colonialist Literature

Lecture 11 - Expostulating Celluloid Stereotypes: Researching Anglo-Indian Representation in Malayalam Cinema

Lecture 12 - Chutney Mary: Rethinking AI Identity through their Culinary Consumption Culture

Lecture 13 - In Search of a New Home: Anglo-Indians in the Darjeeling Hills, 1900-1947

Lecture 14 - (Re)discovering Anglo-Indians of Visakhapatnam - An Overview

Lecture 15 - Genealogy of Sporting Culture through a Study of Anglo-Indian Institutions of Asansol

Lecture 16 - Keynote Address

Lecture 17 - Crowdsourcing as a Research Tool

Lecture 18 - Researching Community, Writing Cultures: Challenges and Opportunities

Lecture 19 - Revisiting the Anglo-Indian Community: Making and Unmaking of Anglo-Indian Identity in India

Lecture 20 - Minoritizing English: Anglo-Indians as a Linguistic Minority in India

[Lecture 1 - Introduction to Dravidian Temple Architecture and Construction Techniques - Part 1](#)

[Lecture 2 - Introduction to Dravidian Temple Architecture and Construction Techniques - Part 2](#)

[Lecture 3 - Introduction to Dravidian Temple Architecture and Construction Techniques - Part 3](#)

[Lecture 4 - Introduction to Dravidian Temple Architecture and Construction Techniques - Part 4](#)

[Lecture 5 - Introduction to Dravidian Temple Architecture and Construction Techniques - Part 5](#)

[Lecture 6 - Naal Kurithal - Part 1](#)

[Lecture 7 - Naal Kurithal - Part 2](#)

[Lecture 8 - Naal Kurithal - Part 3](#)

[Lecture 9 - Naal Kurithal - Part 4](#)

[Lecture 10 - Naal Kurithal - Part 5](#)

[Lecture 11 - Naal Kurithal - Part 6](#)

[Lecture 12 - Ayadhi Calculations - Part 1](#)

[Lecture 13 - Ayadhi Calculations - Part 2](#)

[Lecture 14 - Ayadhi Calculations - Part 3](#)

[Lecture 15 - Ayadhi Calculations - Part 4](#)

[Lecture 16 - Ayadhi Calculations - Part 5](#)

[Lecture 17 - Ayadhi Calculations - Part 6](#)

[Lecture 18 - Ayadhi Calculations - Part 7](#)

[Lecture 19 - Ayadhi Calculations - Part 8](#)

[Lecture 20 - Ayadhi Calculations - Part 9](#)

[Lecture 21 - Ayadhi Calculations - Part 10](#)

[Lecture 22 - Ayadhi Calculations - Part 11](#)

[Lecture 23 - Alavukal - Part 1](#)

[Lecture 24 - Alavukal - Part 2](#)

[Lecture 25 - Alavukal - Part 3](#)

[Lecture 26 - Alavukal - Part 4](#)

[Lecture 27 - Alavukal - Part 5](#)

[Lecture 28 - Alavukal - Part 6](#)

[Lecture 29 - Dhisai Aridhal - Part 1](#)

[Lecture 30 - Dhisai Aridhal - Part 2](#)

[Lecture 31 - Dhisai Aridhal - Part 3](#)

[Lecture 32 - Dhisai Aridhal - Part 4](#)

[Lecture 33 - Dhisai Aridhal - Part 5](#)

[Lecture 34 - Site Analysis - Part 1](#)

[Lecture 35 - Site Analysis - Part 2](#)

[Lecture 36 - Site Analysis - Part 3](#)

[Lecture 37 - Site Analysis - Part 4](#)

[Lecture 38 - Site Analysis - Part 5](#)

[Lecture 39 - Site Analysis - Part 6](#)

[Lecture 40 - Site Analysis - Part 7](#)

[Lecture 41 - Site Analysis - Part 8](#)

[Lecture 42 - Site Analysis - Part 9](#)

[Lecture 43 - Formulation of Structure - Part 1](#)

[Lecture 44 - Formulation of Structure - Part 2](#)

[Lecture 45 - Formulation of Structure - Part 3](#)

[Lecture 46 - Formulation of Structure - Part 4](#)

[Lecture 47 - Formulation of Structure - Part 5](#)

[Lecture 48 - Formulation of Structure - Part 6](#)

[Lecture 49 - Formulation of Structure - Part 7](#)

[Lecture 50 - Formulation of Structure - Part 8](#)

[Lecture 51 - Formulation of Structure - Part 9](#)

[Lecture 52 - Formulation of Structure - Part 10](#)

[Lecture 53 - Formulation of Structure - Part 11](#)

[Lecture 54 - Formulation of Structure - Part 12](#)

[Lecture 55 - Formulation of Structure - Part 13](#)

[Lecture 56 - Formulation of Structure - Part 14](#)

[Lecture 57 - Formulation of Structure - Part 15](#)

[Lecture 58 - Formulation of Structure - Part 16](#)

[Lecture 59 - Formulation of Structure - Part 17](#)

[Lecture 60 - Formulation of Structure - Part 18](#)

[Lecture 61 - Formulation of Structure - Part 19](#)

[Lecture 62 - Formulation of Structure - Part 20](#)

[Lecture 63 - Formulation of Structure - Part 21](#)

[Lecture 64 - Formulation of Structure - Part 22](#)

[Lecture 65 - Formulation of Structure - Part 23](#)

[Lecture 66 - Formulation of Structure - Part 24](#)

[Lecture 67 - Formulation of Structure - Part 25](#)

[Lecture 68 - Formulation of Structure - Part 26](#)

[Lecture 69 - Formulation of Structure - Part 27](#)

[Lecture 70 - Formulation of Structure - Part 28](#)

[Lecture 71 - Formulation of Structure - Part 29](#)

[Lecture 72 - Formulation of Structure - Part 30](#)

[Lecture 73 - Formulation of Structure - Part 31](#)

[Lecture 74 - Formulation of Structure - Part 32](#)

[Lecture 75 - Formulation of Structure - Part 33](#)

[Lecture 76 - Formulation of Structure - Part 34](#)

[Lecture 77 - Formulation of Structure - Part 35](#)

[Lecture 78 - Formulation of Structure - Part 36](#)

[Lecture 79 - Formulation of Structure - Part 37](#)

[Lecture 80 - Formulation of Structure - Part 38](#)

[Lecture 81 - Formulation of Structure - Part 39](#)

[Lecture 82 - Formulation of Structure - Part 40](#)

[Lecture 83 - Formulation of Structure - Part 41](#)

[Lecture 84 - Formulation of Structure - Part 42](#)

[Lecture 85 - Formulation of Structure - Part 43](#)

[Lecture 86 - Formulation of Structure - Part 44](#)

[Lecture 87 - Formulation of Structure - Part 45](#)

[Lecture 88 - Formulation of Structure - Part 46](#)

[Lecture 89 - Characteristics of a Mandapam - Part 1](#)

[Lecture 90 - Characteristics of a Mandapam - Part 2](#)

[Lecture 91 - Characteristics of a Mandapam - Part 3](#)

[Lecture 92 - Characteristics of a Mandapam - Part 4](#)

[Lecture 93 - Characteristics of a Mandapam - Part 5](#)

[Lecture 94 - Characteristics of a Mandapam - Part 6](#)

Lecture 1 - Web Browser Security

Lecture 2 - Trusted Computing

Lecture 3 - Buffer Overflow Vulnerability and Protection Techneques

Lecture 4 - Secure Software Engineering : Secure Design Principles and Coding Practices

Lecture 5 - Challenges and Opportunities with Cloud Security

Lecture 6 - Cognitive Security with Watson

Lecture 7 - IBM MaaS360 Architecture Overview

Lecture 8 - Unified Risk Management Approach

Lecture 9 - Data Encryption and Post Quantum Cryptography (PQC)

Lecture 10 - Network Security - I

Lecture 11 - Network Security - II

Lecture 12 - Network Security - III

Lecture 13 - Network Security - IV

Lecture 14 - Network Security - V

Lecture 15 - Network Security - VI

Lecture 16 - Security: Network and Transport Layers - I

Lecture 17 - Security: Network and Transport Layers - II

Lecture 18 - Security: Network and Transport Layers - III

Lecture 19 - Security Gap Analysis - I

Lecture 20 - Security Gap Analysis - II

- Lecture 1 - Introduction to Stable Matchings
- Lecture 2 - Men-Optimality of the Men-Proposing Gale-Shapley Algorithm
- Lecture 3 - GS: Cheating Strategies for Men
- Lecture 4 - GS: Cheating Strategies for Women
- Lecture 5 - The Hospital Residents Problem
- Lecture 6 - Popular Matchings in the stable marriage problem
- Lecture 7 - Popularity in the House Allocation Problem - 1
- Lecture 8 - Popularity in the House Allocation Problem - 2
- Lecture 9 - Strategic Behavior in Popular Matchings
- Lecture 10 - Stable Roommates: Matchings in the Non-bipartite Setting
- Lecture 11 - An Introduction to Voting
- Lecture 12 - The Game of Trust - Nicky Case's Interactive Essay
- Lecture 13 - Arrow's Theorem
- Lecture 14 - Gibbard-Satterthwaite Theorem
- Lecture 15 - Domain Restrictions and Multiwinner Elections
- Lecture 16 - Incentive Design in Crowdsourcing Applications
- Lecture 17 - Adversarial Approaches in Deep Learning - Part 1
- Lecture 18 - Adversarial Approaches in Deep Learning - Part 2
- Lecture 19 - Algorithmic for Computing Market Equilibrium
- Lecture 20 - Tournament Fixing and Superkings
- Lecture 21 - Tournament Fixing Parameterized by FAS
- Lecture 22 - Tournament Fixing with Bribery
- Lecture 23 - An Introduction to Cake-Cutting
- Lecture 24 - Two Algorithms for Finding Proportional Allocations
- Lecture 25 - Envy-Freenes and Approximate EF
- Lecture 26 - Sperner's Lemma and Applications
- Lecture 27 - Cake Cutting with a Secret Agent
- Lecture 28 - Fairness Notions for Indivisible Goods
- Lecture 29 - Computing EF1 Allocations: Cycle Trading and Round Robin
- Lecture 30 - An Introduction to Rent Division
- Lecture 31 - Rent Division and Maximum Weight Matchings

[Lecture 32 - Hall's Theorem and Maximin Share](#)

[Lecture 33 - Probability Review - Part 1](#)

[Lecture 34 - Probability Review - Part 2](#)

[Lecture 35 - Predicting Election Outcomes](#)

[Lecture 36 - Reservoir Sampling and Preference Elicitation](#)

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- ϵ Approx: FPTAS

Lecture 24 - Perfect graphs,weak and strong perfect graph conjecture,line graphs,interval graphs

Lecture 25 - $\hat{1}$ ± perfection of interval graphs,chordal graphs,expansion lemma, proof for weak perfect conjecture - Part 1

Lecture 26 - $\hat{1}$ ± perfection of interval graphs,chordal graphs,expansion lemma, proof for weak perfect conjecture - Part 2

Lecture 27 - Comparability graph, Permutation graphs, AT-free graphs, Trapezoidal graphs, Circular arc graphs, Boxicity and related concepts

Lecture 28 - Fixed Parameter Algorithms, -VC, Cluster vertex deletion, - Branching

Lecture 29 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing branching algorithm - Part 1

Lecture 30 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing branching algorithm -

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

Part 2

Lecture 31 - Kernelization, -VC, CrownDecomposition, Feedback vertex set, Herative compression, Analysing branching algorithm - Part 3

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

[Lecture 1 - Lattice Theory - Part 1](#)

[Lecture 2 - Lattice Theory - Part 2](#)

[Lecture 3 - Lattice Theory - Part 3](#)

[Lecture 4 - Lattice Theory - Part 4](#)

[Lecture 5 - Lattice Theory - Part 5](#)

[Lecture 6 - Lattice Theory - Part 6](#)

[Lecture 7 - Lattice Theory - Part 7](#)

[Lecture 8 - Lattice Theory - Part 8](#)

[Lecture 9 - Lattice Theory - Part 9](#)

[Lecture 10 - Machine Dependent Optimizations - Part 1](#)

[Lecture 11 - Machine Dependent Optimizations - Part 2](#)

[Lecture 12 - Machine Dependent Optimizations - Part 3](#)

[Lecture 13 - Machine Dependent Optimizations - Part 4](#)

[Lecture 14 - Machine Dependent Optimizations - Part 5](#)

[Lecture 15 - Machine Dependent Optimizations - Part 6](#)

[Lecture 16 - Machine Dependent Optimizations - Part 7](#)

[Lecture 17 - Machine Dependent Optimizations - Part 8](#)

[Lecture 18 - Machine Dependent Optimizations - Part 9](#)

[Lecture 19 - Machine Dependent Optimizations - Part 10](#)

[Lecture 20 - Program Execution Environment - Part 1](#)

[Lecture 21 - Program Execution Environment - Part 2](#)

[Lecture 22 - Program Execution Environment - Part 3](#)

[Lecture 23 - Program Execution Environment - Part 4](#)

[Lecture 24 - Program Execution Environment - Part 5](#)

[Lecture 25 - Program Execution Environment - Part 6](#)

[Lecture 26 - Program Execution Environment - Part 7](#)

[Lecture 27 - Program Execution Environment - Part 8](#)

[Lecture 28 - Optimizing Virtual Function Calls](#)

[Lecture 29 - High Level Optimizations - Part 1](#)

[Lecture 30 - High Level Optimizations - Part 2](#)

[Lecture 31 - High Level Optimizations - Part 3](#)

[Lecture 32 - High Level Optimizations - Part 4](#)

[Lecture 33 - High Level Optimizations - Part 5](#)

[Lecture 34 - High Level Optimizations - Part 6](#)

Lecture 1 - Introduction to Computational Geometry

Lecture 2 - Convex hull

Lecture 3 - Quick hull

Lecture 4 - Plane sweep algorithm

Lecture 5 - Voronoi Diagram - I

Lecture 6 - Convex Geometry - I

Lecture 7 - Convex Geometry - II

Lecture 8 - Incidence Geometry - I

Lecture 9 - Incidence Geometry - II

Lecture 10 - Plane sweep algorithm

Lecture 11 - Polygon Triangulation

Lecture 12 - Geometric and Abstract Simplicial Complexes

Lecture 13 - Convex Polytopes and Polyhedra

Lecture 14 - Art Gallery Theorem

Lecture 15 - Smallest Enclosing Disc

Lecture 16 - Point Hyperplane Duality

Lecture 17 - Voronoi Diagrams and Delaunay triangulations - I

Lecture 18 - Voronoi Diagrams and Delaunay triangulations - II

Lecture 19 - Point Location

Lecture 20 - Range Searching (KD Tree)

Lecture 21 - Range Searching (Range Tree)

Lecture 22 - Visibility Graph and motion planning

Lecture 23 - Geometric Approximation: The Shifting Strategy, Hochbaum and Mass, 1984

Lecture 24 - Application of incidence geometry in combinatorics

Lecture 25 - Robot motion planning and visibility

Lecture 26 - Reeb Graph Introduction and Morse Theory basics

Lecture 27 - Reeb Graph Properties

Lecture 28 - Reeb Graph Algorithms, Applications

Lecture 29 - Arrangements - I

Lecture 30 - Linear Programming

Lecture 31 - Arrangements - II

[Lecture 32 - Zone Theorem and Application](#)

[Lecture 33 - Randomized Incremental Construction - I](#)

[Lecture 34 - Randomized Incremental Construction - II](#)

[Lecture 35 - VC-dimension, Epsilon-nets, LP-based approximation for Geometric Covering](#)

[Lecture 36 - Quasi-uniform Sampling for Weighted Covering Problems.](#)

[Lecture 37 - Local Search for Packing and Covering](#)

[Lecture 38 - PTAS via Local Search - I](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM Summer School on Algorithmic and Theoretical Aspects of Machine Learning (Special Lecture Series)

Co-ordinators : Meenakshi D'Souza

Lecture 1 - Learning on Finite State Automata and Decision Session - 1

Lecture 2 - Learning on Finite State Automata and Decision Session - 2

Lecture 3 - Learning on Finite State Automata and Decision Session - 3

Lecture 4 - Probability Session - 1

Lecture 5 - Probability Session - 2

Lecture 6 - Probability Session - 3

Lecture 7 - Probability Session - 4

Lecture 8 - Probability Session - 5

Lecture 9 - Probability Session - 6

Lecture 10 - Probability Session - 7

Lecture 11 - Probability Session - 8

Lecture 12 - Probability Session - 9

Lecture 13 - Probability Session - 10

Lecture 14 - Algebra for Machine Learning Session - 1

Lecture 15 - Algebra for Machine Learning Session - 2

Lecture 16 - Algebra for Machine Learning Session - 3

Lecture 17 - Crptography and Machine Learning

Lecture 18 - Neural Networks Session - 1

Lecture 19 - Neural Networks Session - 2

Lecture 20 - Neural Networks Session - 3

Lecture 21 - Neural Networks Session - 4

Lecture 22 - Neural Networks Session - 5

Lecture 23 - Enterprise Applications of ML Session - 1

Lecture 24 - Basic of Algorithm Design Session - 1

Lecture 25 - Basic of Algorithm Design Session - 2

Lecture 26 - Basic of Algorithm Design Session - 3

Lecture 27 - Basic of Algorithm Design Session - 4

Lecture 28 - Introduction to Optimization Session - 1

Lecture 29 - Introduction to Optimization Session - 2

Lecture 30 - Introduction to Reinforcement Learning Session - 1

Lecture 31 - Introduction to Reinforcement Learning Session - 2

HTML Links for 1,19,200+ NPTEL Video Lectures, Created by LinuXpert Systems, Chennai

[Lecture 32 - Introduction to Reinforcement Learning Session - 3](#)

[Lecture 33 - Introduction to Reinforcement Learning Session - 4](#)

[Lecture 34 - Introduction to Reinforcement Learning Session - 5](#)

[Lecture 35 - Introduction to Reinforcement Learning Session - 6](#)

[Lecture 36 - Introduction to Reinforcement Learning Session - 7](#)

[Lecture 37 - Introduction of Cryptography Session - 1](#)

[Lecture 38 - Introduction of Cryptography Session - 2](#)

[Lecture 39 - Introduction of Cryptography Session - 3](#)

[Lecture 40 - Compressive Sensing Session - 1](#)

[Lecture 41 - Compressive Sensing Session - 2](#)

[Lecture 42 - Compressive Sensing Session - 3](#)

[Lecture 43 - Compressive Sensing Session - 4](#)

[Lecture 44 - Compressive Sensing Session - 5](#)

[Lecture 45 - Compressive Sensing Session - 6](#)

[Lecture 46 - Compressive Sensing Session - 7](#)

[Lecture 47 - Compressive Sensing Session - 8](#)

Lecture 1 - Department Introduction

Lecture 2 - Introduction to Cloud Computing - Part 1

Lecture 3 - Introduction to Cloud Computing - Part 2

Lecture 4 - Cloud IaaS and Virtualization

Lecture 5 - System Virtualization

Lecture 6 - Mechanisms for System Virtualization

Lecture 7 - Containers - Part 1

Lecture 8 - Containers - Part 2

Lecture 9 - AI and Hybrid Cloud

Lecture 10 - Container Orchestration - Part 1

Lecture 11 - Container Orchestration - Part 2

Lecture 12 - Container Orchestration - Part 3

Lecture 13 - Application Devops - Part 1

Lecture 14 - Application Devops - Part 2

Lecture 15 - Application Devops - Part 3

Lecture 16 - Application Devops - Part 4

Lecture 17 - Application Devops - Part 5

Lecture 18 - Application Devops - Part 6

Lecture 19 - Cloud as Distributed System - Part 1

Lecture 20 - Cloud as Distributed System - Part 2

- Lecture 1 - Review of Basic Concepts - Dr. Abhijat Vichare - Session - 1
- Lecture 2 - Review of Basic Concepts - Dr. Abhijat Vichare - Session - 2
- Lecture 3 - Review of Basic Concepts - Dr. Abhijat Vichare - Session - 3
- Lecture 4 - Introduction to Lex and Yacc - Sameera Deshpande - Session - 1
- Lecture 5 - Introduction to Lex and Yacc - Sameera Deshpande - Session - 2
- Lecture 6 - Hello world, Revisiting the first program we write in c - Siddhesh Poyarekar - Session - 1
- Lecture 7 - Compiler as system - Vivek Buzruk - Session - 1
- Lecture 8 - Compiler as system - Vivek Buzruk - Session - 2
- Lecture 9 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 1
- Lecture 10 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 2
- Lecture 11 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 3
- Lecture 12 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 4
- Lecture 13 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 5
- Lecture 14 - Introduction to Data Flow Analysis - Prof. Uday Khedker - Session - 6
- Lecture 15 - Undefined Behavior Compiler Optimization - Prathamesh K Session - 1
- Lecture 16 - Program Semantics - Prof. Subhajit Roy Session - 1
- Lecture 17 - Program Semantics - Prof. Subhajit Roy Session - 2
- Lecture 18 - Program Semantics - Prof. Subhajit Roy Session - 3
- Lecture 19 - Program Semantics - Prof. Subhajit Roy Session - 4
- Lecture 20 - Program Semantics - Prof. Subhajit Roy Session - 5
- Lecture 21 - Program Semantics - Prof. Subhajit Roy Session - 6
- Lecture 22 - Program Semantics - Prof. Subhajit Roy Session - 7
- Lecture 23 - Program Semantics - Prof. Subhajit Roy Session - 8
- Lecture 24 - Introduction to Optimizations - Prof. V. Krishna N Session - 1
- Lecture 25 - Introduction to Optimizations - Prof. V. Krishna N Session - 2
- Lecture 26 - Introduction to Optimizations - Prof. V. Krishna N Session - 3
- Lecture 27 - Introduction to Optimizations - Prof. V. Krishna N Session - 4
- Lecture 28 - Compiler as system - Vivek S. Buzruk Session - 1
- Lecture 29 - Compiler as system - Vivek S. Buzruk Session - 2

Lecture 1 - Basics of Computer Architecture and OS

Lecture 2 - An Introduction to High Performance Computing

Lecture 3 - Introduction to OpenMP

Lecture 4 - Advanced OpenMP

Lecture 5 - Introduction to MPI

Lecture 6 - Advanced MPI

Lecture 7 - Supercomputing in India

Lecture 8 - Job Scheduling

Lecture 9 - Introduction to GPU

Lecture 10 - Introduction to Open ACC

Lecture 11 - CPU and GPU Memory

Lecture 12 - Optimizations and GPU Profiling

Lecture 13 - CUDA C

Lecture 14 - HPC Networking - I

Lecture 15 - HPC Networking - II

Lecture 16 - Research in HPS

Lecture 17 - Case Study - Parallel Graph Algorithms

Lecture 18 - Case Study - Solving PDEs at Extreme Scale

NPTEL : Thermodynamics of Materials (Special Lecture Series)

Co-ordinators : Prof. Sir H. K. D. H. Bhadeshia

Lecture 1 - Basic thermodynamic functions: Enthalpy, entropy, configurational entropy, Gibbs free energy

Lecture 2 - State of equilibrium: Chemical potential, activity, equilibrium between solutions

Lecture 3 - Case study: Mechanical alloying, alloying by deformation.

Lecture 4 - Computer calculation of phase diagrams

Lecture 5 - Thermodynamics of irreversible processes: Multiple irreversible processes

Lecture 6 - Quasichemical solutions

- Lecture 1 - ACM Summer School on Program Execution - Introduction
- Lecture 2 - Basics of Architecture - Part 1
- Lecture 3 - Basics of Architecture - Part 2
- Lecture 4 - Basics of Architecture - Part 3
- Lecture 5 - Basics of Architecture - Part 4
- Lecture 6 - A Review of Architectural Features for supporting Program Execution - Part 1
- Lecture 7 - A Review of Architectural Features for supporting Program Execution - Part 2
- Lecture 8 - A Review of Architectural Features for supporting Program Execution - Part 3
- Lecture 9 - A Review of Architectural Features for supporting Program Execution - Part 4
- Lecture 10 - Review of OS - IPC and beyond - Part 1
- Lecture 11 - Review of OS - IPC and beyond - Part 2
- Lecture 12 - From Programs to Processes (and threads) - Part 1
- Lecture 13 - From Programs to Processes (and threads) - Part 2
- Lecture 14 - Network Protocol Fundamentals
- Lecture 15 - Web protocols and Web Software - Part 1
- Lecture 16 - Web protocols and Web Software - Part 2
- Lecture 17 - Storage Systems - Part 1
- Lecture 18 - Storage Systems - Part 2
- Lecture 19 - Storage Systems - Part 3
- Lecture 20 - Basics of High Performance Computing - Part 1
- Lecture 21 - Basics of High Performance Computing - Part 2
- Lecture 22 - Basics of High Performance Computing - Part 3
- Lecture 23 - The Evolution of Linux as an Enterprise Operating System
- Lecture 24 - The Hypervisor - Lord of the Rings - Part 1
- Lecture 25 - The Hypervisor - Lord of the Rings - Part 2
- Lecture 26 - Hands on Lab - Create a VM and Play
- Lecture 27 - Containers and Kubernetes Era - Part 1
- Lecture 28 - Containers and Kubernetes Era - Part 2
- Lecture 29 - Containers and Kubernetes Era - Part 3
- Lecture 30 - The Future of Compute - Part 1
- Lecture 31 - The Future of Compute - Part 2

Lecture 1 - Panel Discussion Q and A - Part 1

Lecture 2 - Panel Discussion Q and A - Part 2

Lecture 3 - Runtime and Linkers - Discussion - 1

Lecture 4 - Runtime and Linkers - Discussion - 2

Lecture 5 - Runtime and Linkers - Linkers

Lecture 6 - Runtime and Linkers - Program Execution - Loader

Lecture 7 - Runtime and Linkers - Static Libraries - Dynamic Linking

Lecture 8 - Code Generation and Backend - An Introduction to LLVM Backend

Lecture 9 - Code Generation and Backend - An Introduction to Loop Backend

Lecture 10 - Code Generation and Backend - Code Generation with LLVM - Part 1

Lecture 11 - Code Generation and Backend - Code Generation with LLVM - Part 2

Lecture 12 - Machine Independent Optimizations - High Level Optimizations - 1

Lecture 13 - Machine Independent optimizations - High Level Optimizations - 2

Lecture 14 - Machine Independent optimizations - High Level Optimizations - 3

Lecture 15 - Machine Independent optimizations - High Level Optimizations - 4

Lecture 16 - Machine Independent optimizations - High Level Optimizations - 5

Lecture 17 - Machine Independent optimizations - High Level Optimizations - 6

Lecture 18 - Machine Architecture and Machine Dependent Optimizations - Machine Architecture - 1

Lecture 19 - Machine Architecture and Machine Dependent Optimizations - Machine Architecture - 2

Lecture 20 - Machine Architecture and Machine Dependent Optimizations - Machine Architecture - 3

Lecture 21 - Machine Architecture and Machine Dependent Optimizations - Register Allocation - 1

Lecture 22 - Machine Architecture and Machine Dependent Optimizations - Register Allocation - 2

Lecture 23 - Machine Architecture and Machine Dependent Optimizations - Register Allocation - 3

Lecture 24 - Machine Architecture and Machine Dependent Optimizations - Instruction Scheduling - 1

Lecture 25 - Machine Architecture and Machine Dependent Optimizations - Instruction Scheduling - 2

Lecture 26 - Machine Dependent Optimizations - Dependence Analysis and Loop transformations - 1

Lecture 27 - Machine Dependent Optimizations - Dependence Analysis and Loop transformations - 2

Lecture 28 - Control-Flow Analyses and Static Single Assignment form - Control Flow Analysis - 1

Lecture 29 - Control-Flow Analyses and Static Single Assignment form - Control Flow Analysis - 2

Lecture 30 - Control-Flow Analyses and Static Single Assignment form - Depth First Analysis of Flow Graphs

Lecture 31 - Control-Flow Analyses and Static Single Assignment form - Dominators

- [Lecture 32 - Control-Flow Analyses and Static Single Assignment form - Natural Loops \(for Reducible Flow-Graphs\)](#)
- [Lecture 33 - Control-Flow Analyses and Static Single Assignment form - The Static Single Assignment SSA Form - 1](#)
- [Lecture 34 - Control-Flow Analyses and Static Single Assignment form - The Static Single Assignment SSA Form - 2](#)
- [Lecture 35 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I Part 1](#)
- [Lecture 36 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I Part 2](#)
- [Lecture 37 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I - Part 3](#)
- [Lecture 38 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I - Part 4](#)
- [Lecture 39 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I - Part 5](#)
- [Lecture 40 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I - Part 6](#)
- [Lecture 41 - Polyhedral Compilation and Loop Optimizations - Polyhedral Compilation I - Part 7](#)
- [Lecture 42 - Polyhedral Compilation and Loop Optimizations - Affine Control Loops](#)
- [Lecture 43 - Polyhedral Compilation and Loop Optimizations - Siplifying Reductions Revised - 1](#)
- [Lecture 44 - Polyhedral Compilation and Loop Optimizations - Siplifying Reductions Revised - 2](#)
- [Lecture 45 - Polyhedral Compilation and Loop Optimizations - Siplifying Reductions Revised - 3](#)
- [Lecture 46 - Polyhedral Compilation and Loop Optimizations - Classical Optimization](#)
- [Lecture 47 - Polyhedral Compilation and Loop Optimizations - What is Program Analysis](#)
- [Lecture 48 - Polyhedral Compilation and Loop Optimizations - Live Variable Analysis - 1](#)
- [Lecture 49 - Polyhedral Compilation and Loop Optimizations - Live Variable Analysis - 2](#)
- [Lecture 50 - Polyhedral Compilation and Loop Optimizations - Available Expression Analysis](#)
- [Lecture 51 - Polyhedral Compilation and Loop Optimizations - Common Features of Bit Vector Frameworks](#)
- [Lecture 52 - Polyhedral Compilation and Loop Optimizations - The Birth of a Compiler - 1](#)
- [Lecture 53 - Polyhedral Compilation and Loop Optimizations - The Birth of a Compiler - 2](#)
- [Lecture 54 - Polyhedral Compilation and Loop Optimizations - The Structure of Modern Compiler Modern Challenges](#)
- [Lecture 55 - Polyhedral Compilation and Loop Optimizations - Conclusion](#)

[Lecture 1 - Linear Algebra and Optimization - 1](#)

[Lecture 2 - Linear Algebra and Optimization - 2](#)

[Lecture 3 - Linear Algebra and Optimization - 3](#)

[Lecture 4 - Linear Algebra and Optimization - 4](#)

[Lecture 5 - Curvature - Part 1](#)

[Lecture 6 - Curvature - Part 2](#)

[Lecture 7 - Curvature - Part 3](#)

[Lecture 8 - Introduction To Parametric Curves and Surfaces - 1](#)

[Lecture 9 - Introduction To Parametric Curves and Surfaces - 2](#)

[Lecture 10 - Introduction To Parametric Curves and Surfaces - 3](#)

[Lecture 11 - Introduction To Parametric Curves and Surfaces - 4](#)

[Lecture 12 - Introduction To Parametric Curves and Surfaces - 5](#)

[Lecture 13 - Introduction To Parametric Curves and Surfaces - 6](#)

[Lecture 14 - Introduction To Parametric Curves and Surfaces - 7](#)

[Lecture 15 - Introduction To Parametric Curves and Surfaces - 8](#)

[Lecture 16 - Introduction To Parametric Curves and Surfaces - 9](#)

[Lecture 17 - Implicit Surfaces - Part 1](#)

[Lecture 18 - Implicit Surfaces - Part 2](#)

[Lecture 19 - Implicit Surfaces - Part 3](#)

[Lecture 20 - MeshLab - Part 1](#)

[Lecture 21 - MeshLab - Part 2](#)

[Lecture 22 - MeshLab - Part 3](#)

[Lecture 23 - MeshLab - Part 4](#)

[Lecture 24 - Discrete Surface - Part 1](#)

[Lecture 25 - Discrete Surface - Part 2](#)

[Lecture 26 - Discrete Surface - Part 3](#)

[Lecture 27 - Discrete Surface - Part 4](#)

[Lecture 28 - Discrete Surface - Part 5](#)

[Lecture 29 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 1](#)

[Lecture 30 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 2](#)

[Lecture 31 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 3](#)

[Lecture 32 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 4](#)

[Lecture 33 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 5](#)

[Lecture 34 - Laplace Beltrami on Manifolds and Meshes with Applications - Part 6](#)

[Lecture 35 - Internal Digital R and I - Part 1](#)

[Lecture 36 - Internal Digital R and I - Part 2](#)

[Lecture 37 - Internal Digital R and I - Part 3](#)

[Lecture 38 - Rigid and Non rigid Shape Matching - Part 1](#)

[Lecture 39 - Rigid and Non rigid Shape Matching - Part 2](#)

[Lecture 40 - Rigid and Non rigid Shape Matching - Part 3](#)

[Lecture 41 - Rigid and Non rigid Shape Matching - Part 4](#)

[Lecture 42 - Geometric Deep Learning - Part 1](#)

[Lecture 43 - Geometric Deep Learning - Part 2](#)

[Lecture 44 - Geometric Deep Learning - Part 3](#)

[Lecture 45 - Geometric Deep Learning - Part 4](#)

[Lecture 46 - Geometric Deep Learning - Part 5](#)

[Lecture 47 - Geometric Deep Learning - Frame Works](#)

[Lecture 48 - Geometric Deep Learning - Lab 1](#)

[Lecture 49 - Geometric Deep Learning - Lab 2](#)

[Lecture 50 - Geometric Deep Learning - Lab 3](#)

Lecture 1 - ACM India Summer School on Shape Modelling - Introduction

Lecture 2 - Linear Algebra and Optimization Refresher - 1

Lecture 3 - Linear Algebra and Optimization Refresher - 2

Lecture 4 - Linear Algebra and Optimization Refresher - 3

Lecture 5 - Linear Algebra and Optimization Refresher - 4

Lecture 6 - Overview of Python 3 + {Numpy, Scipy, Matplotlib} - Part 1

Lecture 7 - Overview of Python 3 + {Numpy, Scipy, Matplotlib} - Part 2

Lecture 8 - Curves and Surfaces - Part 1

Lecture 9 - Curves and Surfaces - Part 2

Lecture 10 - Curves and Surfaces - Part 3

Lecture 11 - Curves and Surfaces - Part 4

Lecture 12 - Curves and Surfaces - Part 5

Lecture 13 - Curves and Surfaces - Part 6

Lecture 14 - Curves and Surfaces - Part 7

Lecture 15 - Algorithms in Computational Geometry - Part 1

Lecture 16 - Algorithms in Computational Geometry - Part 2

Lecture 17 - Algorithms in Computational Geometry - Part 3

Lecture 18 - Algorithms in Computational Geometry - Part 4

Lecture 19 - Algorithms in Computational Geometry - Part 5

Lecture 20 - Algorithms in Computational Geometry Lab - Part 1

Lecture 21 - Algorithms in Computational Geometry Lab - Part 2

Lecture 22 - Algorithms in Computational Geometry Lab - Part 3

Lecture 23 - Discrete Surfaces - Part 1

Lecture 24 - Discrete Surfaces - Part 2

Lecture 25 - Discrete Surfaces - Part 3

Lecture 26 - Discrete Surfaces - Part 4

Lecture 27 - Discrete Surfaces - Part 5

Lecture 28 - Implicit and Discrete Surfaces

Lecture 29 - Discrete Surfaces - Part Lab - Part 1

Lecture 30 - Discrete Surfaces - Part Lab - Part 2

Lecture 31 - Discrete Laplace Beltrami Operator - Part 1

- Lecture 32 - Discrete Laplace Beltrami Operator - Part 2
- Lecture 33 - Discrete Laplace Beltrami Operator - Part 3
- Lecture 34 - Discrete Laplace Beltrami Operator - Part 4
- Lecture 35 - Discrete Laplace Beltrami Operator - Part 5
- Lecture 36 - Discrete Laplace Beltrami Operator - Part 6
- Lecture 37 - Lab Libigl-Python-Blindings - Part 1
- Lecture 38 - Lab Libigl-Python-Blindings - Part 2
- Lecture 39 - Procrustes Shape Analysis - Part 1
- Lecture 40 - Procrustes Shape Analysis - Part 2
- Lecture 41 - Procrustes Shape Analysis - Part 3
- Lecture 42 - Procrustes Shape Analysis - Part 4
- Lecture 43 - Lab Procrustes Shape Analysis Template - Part 1
- Lecture 44 - Lab Procrustes Shape Analysis Template - Part 2
- Lecture 45 - Lab Procrustes Shape Analysis Template - Part 3
- Lecture 46 - Shape Deformation/Animation, Shape Matching - Part 1
- Lecture 47 - Shape Deformation/Animation, Shape Matching - Part 2
- Lecture 48 - Shape Deformation/Animation, Shape Matching - Part 3
- Lecture 49 - Shape Deformation/Animation, Shape Matching - Part 4
- Lecture 50 - Shape Deformation/Animation, Shape Matching - Part 5
- Lecture 51 - Geometric Deep Learning - Part 1
- Lecture 52 - Geometric Deep Learning - Part 2
- Lecture 53 - Geometric Deep Learning - Part 3
- Lecture 54 - Geometric Deep Learning - Part 4
- Lecture 55 - Geometric Deep Learning - Part 5
- Lecture 56 - Geometric Deep Learning - Part 6
- Lecture 57 - Topological Descriptors For Data and Shape Analysis - Part 1
- Lecture 58 - Topological Descriptors For Data and Shape Analysis - Part 2
- Lecture 59 - Topological Descriptors For Data and Shape Analysis - Part 3
- Lecture 60 - Topological Descriptors For Data and Shape Analysis - Part 4
- Lecture 61 - Panel Discussion On Shape Modelling In Academia and Industry - Part 1
- Lecture 62 - Panel Discussion On Shape Modelling In Academia and Industry - Part 2

Lecture 1 - ACM Day 1 Session 1

Lecture 2 - ACM Day 1 Session 2 - Part I

Lecture 3 - ACM Day 1 Session 2 - Part II

Lecture 4 - ACM Day 1 Session 3 - Part I

Lecture 5 - ACM Day 1 Session 3 - Part II

Lecture 6 - ACM Day 2 Session 1 - Part I

Lecture 7 - ACM Day 2 Session 1 - Part II

Lecture 8 - ACM Day 2 Session 2 - Part I

Lecture 9 - ACM Day 2 Session 2 - Part II

Lecture 10 - ACM Day 3 Session 1 - Part 1

Lecture 11 - ACM Day 3 Session 1 - Part 2

Lecture 12 - ACM Day 3 Session 2 - Part 1

Lecture 13 - ACM Day 3 Session 2 - Part 2

Lecture 14 - ACM Day 3 Session 3 - Part I

Lecture 15 - ACM Day 3 Session 3 - Part II

Lecture 16 - ACM Day 3 Session 4 - Part I

Lecture 17 - ACM Day 3 Session 4 - Part II

Lecture 18 - ACM Day 4 session 1 - Part I

Lecture 19 - ACM Day 4 session 1 - Part II

Lecture 20 - ACM Day 4 session 2 - Part I

Lecture 21 - ACM Day 4 session 2 - Part II

Lecture 22 - ACM Day 5 session 1 - Part 1

Lecture 23 - ACM Day 5 session 1 - Part 2

Lecture 24 - ACM Day 5 session 2 - Part 1

Lecture 25 - ACM Day 5 session 2 - Part 2

Lecture 26 - ACM Day 6 session 1 - Part 1

Lecture 27 - ACM Day 6 session 1 - Part 2

Lecture 28 - ACM Day 6 session 2 - Part 1

Lecture 29 - ACM Day 6 session 2 - Part 2

Lecture 30 - ACM Day 7 session 1 - Part I

Lecture 31 - ACM Day 7 session 1 - Part II

[Lecture 32 - ACM Day 7 Session 2](#)

[Lecture 33 - ACM Day 8 Session 1](#)

[Lecture 34 - ACM Day 8 Session 2](#)

[Lecture 35 - ACM Day 8 Session 3](#)

[Lecture 36 - ACM Day 8 Session 4](#)

[Lecture 37 - ACM Day 9 Session 1](#)

[Lecture 38 - ACM Day 9 Session 2](#)

[Lecture 39 - ACM Day 9 Session 3](#)

[Lecture 40 - ACM Day 9 Session 4](#)

[Lecture 41 - ACM Day 9 Session 5 - Part 1](#)

[Lecture 42 - ACM Day 9 Session 5 - Part 2](#)

[Lecture 43 - ACM Day 10 Session 1](#)

[Lecture 44 - ACM Day 10 Session 2 - Part 1](#)

[Lecture 45 - ACM Day 10 Session 2 - Part 2](#)

[Lecture 46 - ACM Day 10 Session 3 - Part 1](#)

[Lecture 47 - ACM Day 10 Session 3 - Part 2](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM Winter School on Design, Implementation and Verification of Computer Systems (Special Lecture Series)

Co-ordinators : Multi-Faculty

Lecture 1 - Mathematical Logic - Session 1

Lecture 2 - Mathematical Logic - Session 2

Lecture 3 - Industry Perspectives on Compiler Design

Lecture 4 - Processor Datapath and Introduction to ILP Architecture - Session 1

Lecture 5 - Processor Datapath and Introduction to ILP Architecture - Session 2

Lecture 6 - Instruction Level Parallelism - Session 1

Lecture 7 - Multithreading and Multicores

Lecture 8 - Instruction Level Parallelism - Session 2

Lecture 9 - DRAM Memory Organization

Lecture 10 - Reactive Synthesis: A High-Level Introduction - Session 1

Lecture 11 - Reactive Synthesis: A High-Level Introduction - Session 2

Lecture 12 - Reactive Synthesis: A High-Level Introduction - Session 3

Lecture 13 - Reactive Synthesis: A High-Level Introduction - Session 4

Lecture 14 - Reduced Ordered Binary Decision Diagrams and And-Inverter Graphs - Session 1

Lecture 15 - Reduced Ordered Binary Decision Diagrams and And-Inverter Graphs - Session 2

Lecture 16 - Reduced Ordered Binary Decision Diagrams and And-Inverter Graphs - Session 3

Lecture 17 - Runtime Environments - I

Lecture 18 - Runtime Environments - II

Lecture 19 - Hexagon DSPs in Snapdragon

Lecture 20 - Types and Program Analysis

Lecture 21 - Local and Global Optimizations

Lecture 22 - Introduction to Data-Flow and Control-Flow Analyses

Lecture 23 - Code Generation and Register Allocation

Lecture 24 - The Static Single Assignment Form and Application to Program Optimizations

Lecture 25 - Garbage Collection

Lecture 26 - Program Testing and Verification - Session 1

Lecture 27 - Program Testing and Verification - Session 2

[Lecture 1 - NP-Completeness](#)

[Lecture 2 - Hilbert's Tenth Problem](#)

[Lecture 3 - SAT Solvers](#)

[Lecture 4 - Polynomial Identity Testing](#)

[Lecture 5 - Finite Graphs for Infinite Functions](#)

[Lecture 6 - A Panorama of Computational Problems](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : NPTEL Special Lectures Series (Special Lecture Series)

Co-ordinators : Mr. Ravikrishnan .A, Srivastava, Raman .K

Lecture 1 - Microbial Social Networks: From Deep Sea to Outer Space

Lecture 2 - Data-Driven Analysis to Improve Road Safety

Lecture 3 - The Power of Generative AI: AI that can see and talk

Lecture 4 - Astronomical Challenges in Atomic Scale chip Manufacturing

Lecture 5 - Evaluating Fault - Tolerant Schemes for noisy hardware

Lecture 6 - Tighter and Stronger Quantum Speed Limits for General Quantum States

Lecture 7 - Robust, bright photon sources for quantum communication and quantum sensing applications

Lecture 8 - Particle transport problems at different scales: From circulating fluidized beds to dry powder

Lecture 9 - Simulation and Data: 6 Steps from Theory to Impact through Disasters, Engineering and Heritage

Lecture 10 - The Attosecond Worldâ€”there's plenty of time at the bottom

Lecture 11 - Quantum diffusion during cosmic inflation

Lecture 12 - Squashed quantum non-Markovianity: a measure of genuine quantum non-Markovianity in states

Lecture 13 - Gravitational-Wave Astronomy: New discoveries, puzzles and prospects

Lecture 14 - Bounds on the Superconducting Transition Temperature

Lecture 15 - Probing the primordial universe with electromagnetic and gravitational waves

Lecture 16 - Elephants have a bigger brain than humans, so how come they don't study you

Lecture 17 - Investigating quantum speed limits with superconducting qubits

Lecture 18 - Orbital Angular Momentum Entanglement

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM India Summer School on IoT and Embedded Systems (Special Lecture Series)

Co-ordinators : Prof. Meenakshi DSouza

[Lecture 1 - ACM India Summer School on IoT and Embedded Systems - Introduction](#)

[Lecture 2 - Embedded Sysyem: An Introduction](#)

[Lecture 3 - Introduction to Embedded Sysyems](#)

[Lecture 4 - Introduction to IoT](#)

[Lecture 5 - AWS IoT: Tutorial and demonstration](#)

[Lecture 6 - IoT: Components, operating systems and protocols](#)

[Lecture 7 - Arduino programming](#)

[Lecture 8 - Arduino programming: Tutorial](#)

[Lecture 9 - IoT Applications](#)

[Lecture 10 - IoT Applications: Tutorial and demonstration - 1](#)

[Lecture 11 - IoT Applications: Tutorial and demonstration - 2](#)

[Lecture 12 - Cloud, edge and fog computing for IoT - Part I](#)

[Lecture 13 - Cloud, edge and fog computing for IoT - Part II](#)

[Lecture 14 - IoT Communication](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM India Summer School on Algorithms for Data Science (2023) (Special Lecture Series)

Co-ordinators : Multi-Faculty

Lecture 1 - Introduction - ACM India Summer School on Algorithms for Data Science

Lecture 2 - Introduction to Probability

Lecture 3 - Selection Problems

Lecture 4 - Median from Read-Only Memory

Lecture 5 - Majority and Heavy Hitters

Lecture 6 - Introduction to Probability Tail inequalities

Lecture 7 - Chernoff Bounds

Lecture 8 - Quickselect and Quicksort

Lecture 9 - Introduction to Randomized Algorithms: Graph Minimum Cut

Lecture 10 - Introduction to Streaming Algorithm and Reservoir Sampling

Lecture 11 - Approximate Counting in Streaming: MORRIS Counter

Lecture 12 - Median of Means Technique Applied to Approximate Counting

Lecture 13 - Counting Distinct Elements in Streaming

Lecture 14 - 2-Universal Hashing and Applications for Derandomizing

Lecture 15 - Approximate Heavy Hitters

Lecture 16 - Frequency Moments

Lecture 17 - Graph Streaming Algorithms

Lecture 18 - Locality Sensitive Hashing - Part 1

Lecture 19 - Locality Sensitive Hashing - Part 2

Lecture 20 - Locality Sensitive Hashing - Part 3

Lecture 21 - Graph Streaming Lower Bounds

Lecture 22 - Bloom Filters

Lecture 23 - Frequent Pattern Mining - Part 1

Lecture 24 - Frequent Pattern Mining - Part 2

Lecture 25 - Is AI ready for The real world?

Lecture 26 - Online Learning and Multiarmed Bandits - Part 1

Lecture 27 - Online Learning and Multiarmed Bandits - Part 2

Lecture 28 - Reinforcement Learning - Part 1

Lecture 29 - Reinforcement Learning - Part 2

Lecture 30 - Singular Value Decomposition - Part 1

Lecture 31 - Singular Value Decomposition - Part 2

HTML Links for 1,19,200+ NPTEL Video Lectures, Created by LinuXpert Systems, Chennai

[Lecture 32 - Graph Centralities](#)

[Lecture 33 - Johnson Lindenstrauss Lemma](#)

[Lecture 34 - Graph Centralities Clustering and Partition](#)

Lecture 1 - Mathematical Foundation for Cryptography - Part 1

Lecture 2 - Mathematical Foundation for Cryptography - Part 2

Lecture 3 - Modern Cryptography

Lecture 4 - Modern Cryptography

Lecture 5 - Modern Cryptography - Asymmetric Cryptography

Lecture 6 - Network Security protocols and mechanisms - Part 1

Lecture 7 - Network Security protocols and mechanisms - Part 2

Lecture 8 - IOT Security Protocols - Part 1

Lecture 9 - IOT Security Protocols - Part 2

Lecture 10 - Introduction to Ethical Hacking - Part 1

Lecture 11 - Introduction to Ethical Hacking - Part 2

Lecture 12 - DevSecOps Embedding Security into DevOps - Part 1

Lecture 13 - Web App Security

Lecture 14 - Navigating the privacy landscape

Lecture 15 - Hardware security

Lecture 16 - Introduction to Blockchain

Lecture 17 - Social Engineering and OSINT - Part 1

Lecture 18 - Social Engineering and OSINT - Part 2

Lecture 19 - Cloud Security and Secure Coding Practices - Part 1

Lecture 20 - Cloud Security and Secure Coding Practices - Part 2

Lecture 21 - Career Opportunities, Challenges and Support

Lecture 22 - Quantum Cryptography - Part 1

Lecture 23 - Quantum Cryptography - Part 2

Lecture 24 - AI in cybersecurity

- Lecture 1 - Introduction to Cryptography
- Lecture 2 - Classical Ciphers - Part 1
- Lecture 3 - Classical Ciphers - Part 2
- Lecture 4 - Foundations of Cryptography - Part 1
- Lecture 5 - Foundations of Cryptography - Part 2
- Lecture 6 - Foundations of Cryptography - Part 3
- Lecture 7 - Block and Stream ciphers, Fiestel Networks
- Lecture 8 - Data Encryption Standard
- Lecture 9 - Cybersecurity - Part 1
- Lecture 10 - Cybersecurity - Part 2
- Lecture 11 - Enterprise Security - Part 1
- Lecture 12 - Enterprise Security - Part 2
- Lecture 13 - Advanced Encryption Standard
- Lecture 14 - Information Gathering and Social Engineering
- Lecture 15 - Cybersecurity : A Practical Approach - Part 1
- Lecture 16 - Cybersecurity : A Practical Approach - Part 2
- Lecture 17 - Cybersecurity : A Practical Approach - Part 3
- Lecture 18 - Cybersecurity : A Practical Approach - Part 4
- Lecture 19 - Cybersecurity : A Practical Approach - Part 5
- Lecture 20 - Public Key Cryptography
- Lecture 21 - Network Security - Firewalls, ACL, NAT, AAA, FTD - Part 1
- Lecture 22 - Network Security - Firewalls, ACL, NAT, AAA, FTD - Part 2
- Lecture 23 - Network Security - VPN, PKI, Certificates, SSL,SAML - Part 1
- Lecture 24 - Network Security - VPN, PKI, Certificates, SSL,SAML - Part 2
- Lecture 25 - Virtual Private Networks (VPN)
- Lecture 26 - Hash Functions, Digital Signatures and Quantum Cryptography
- Lecture 27 - Packets, Protocols and Attacks in Cyberspace - Part 1
- Lecture 28 - Packets, Protocols and Attacks in Cyberspace - Part 2

Lecture 1 - Representing Networks

Lecture 2 - Strategic Network Formation - Session 1

Lecture 3 - Strategic Network Formation - Session 2

Lecture 4 - Strategic Network Formation - Session 3

Lecture 5 - Strategic Network Formation - Session 4

Lecture 6 - Network Visualization - Session 1

Lecture 7 - Network Visualization - Session 2

Lecture 8 - Social Network Analysis

Lecture 9 - Neural Networks - Basics

Lecture 10 - Network Analysis in Telecom

Lecture 11 - Strong and Weak Ties

Lecture 12 - Link Analysis

Lecture 13 - Statistical Mechanics of Complex Networks - Session 1

Lecture 14 - Statistical Mechanics of Complex Networks - Session 2

Lecture 15 - Statistical Mechanics of Complex Networks - Session 3

Lecture 16 - Statistical Mechanics of Complex Networks - Session 4

Lecture 17 - Hate Speech - Session 1

Lecture 18 - Hate Speech - Session 2

Lecture 19 - Dynamics on Networks - Session 1

Lecture 20 - Dynamics on Networks - Session 2

Lecture 21 - Dynamics on Networks - Session 3

Lecture 22 - Dynamics on Networks - Session 4

Lecture 23 - Causal Discovery and Network Science

Lecture 24 - Games and Networks - Session 1

Lecture 25 - Games and Networks - Session 2

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM Winter School on Recent Trends in AI and ML (Special Lecture Series)

Co-ordinators : Dr. Chandranath Adak

Lecture 1 - NLP Foundation - Part I

Lecture 2 - NLP Foundation - Part II

Lecture 3 - Fundamentals of Machine Learning - Part I

Lecture 4 - Fundamentals of Machine Learning - Part II

Lecture 5 - Artificial Intelligence - An Introduction

Lecture 6 - Logistic Regression and Neural Networks

Lecture 7 - Large Scale SVM Algorithms and Applications

Lecture 8 - Ensemble Deep Learning For Alzheimer's Disease Diagnosis

Lecture 9 - From Smart Sensing to Smart Living - The Era of IoT, AI:ML and Data Science

Lecture 10 - Machine Learning - Naive Bayes Classification

Lecture 11 - Cluster Analysis - Basic Concepts and Algorithms

Lecture 12 - Algorithms of Unsupervised Learning

Lecture 13 - Backbone functions of Deep Neural Networks Activation, Loss, Optimization functions

Lecture 14 - Convolutional Neural Networks

Lecture 15 - Reinforcement Learning - Experience, Adapt, Excel - Part I

Lecture 16 - Neoteric Frontiers in cloud, edge and Quantum Computing for Bigdata, IoT and AI Applications

Lecture 17 - Reinforcement Learning - Experience, Adapt, Excel - Part II

Lecture 18 - Economic Impact of New Category Recommendation Evidence from a Randomized Field Experiment

Lecture 19 - Neural Text Generation

Lecture 20 - RL Algorithms

Lecture 21 - An Overview of AI, NLP, ML Research Activities

Lecture 22 - LLMs and Ethics

Lecture 23 - Reinforcement Learning with Human Feedback

Lecture 24 - The LLM Journey

Lecture 25 - Representation Learning for Large Scale Pretrained Models

Lecture 26 - Computer Vision Application

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM India Pingala Interactions in Computing (PIC) 2024 (Special Lecture Series)

Co-ordinators : Multi-Faculty

[Lecture 1 - PIC 2024 Inauguration](#)

[Lecture 2 - Exciting Trends in Machine Learning](#)

[Lecture 3 - Towards Inclusive and Responsible Language Technologies](#)

[Lecture 4 - Chat with Jeffrey Dean and Partha Talukdar](#)

[Lecture 5 - Indo-International Collaboration Case Studies - 1](#)

[Lecture 6 - Indo-International Collaboration Case Studies - 2](#)

[Lecture 7 - Indo-International Collaboration Case Studies - 3](#)

[Lecture 8 - Connectivity is the Thing](#)

[Lecture 9 - Chat with Robert Metcalfe](#)

[Lecture 10 - Bad Algorithms](#)

[Lecture 11 - Chat with Saket Saurabh](#)

[Lecture 12 - Converting Research to Business](#)

[Lecture 13 - Robust Query Processing: Where Geometry Beats ML !](#)

[Lecture 14 - Data, More Data, Too Much Data](#)

[Lecture 15 - Chat with Jayant Haritsa and Tova Milo](#)

[Lecture 16 - Efficient Verification of Computation on Untrusted Platforms](#)

[Lecture 17 - Cryptography: the Art of Paradox](#)

[Lecture 18 - Chat with Shweta Agrawal and Yael Kalai](#)

[Lecture 19 - ACM: Goals, Priorities, Initiatives](#)

[Lecture 20 - Valedictory Function](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM INDIA ARCS 2024 (Special Lecture Series)

Co-ordinators : Multi-Faculty

Lecture 1 - Welcome and Opening Remarks

Lecture 2 - Keynote 1

Lecture 3 - Lightning Talks - Part 1

Lecture 4 - Academia Industry Career Opportunities - Sitare-University

Lecture 5 - Academia Industry Career Opportunities - Flame University

Lecture 6 - Academia Industry Career Opportunities - Processor Research Labs

Lecture 7 - ACMI-W Panel Discussion

Lecture 8 - ACMI-W OCCW-Award

Lecture 9 - ACM-India Activities for PhD-Students

Lecture 10 - Keynote 2

Lecture 11 - Lightning Talks - Part 2

Lecture 12 - ECR Award Talk - Siddharth Barman

Lecture 13 - Doctoral Dissertation Award Talks 1

Lecture 14 - Doctoral Dissertation Award Talks 2

Lecture 15 - ECR Talk 1 - Manas-Thakur

Lecture 16 - ECR Talk 2 - Deeksha-Bhartiya

Lecture 17 - ECR Talk 3 - Shikhar-Patranabais

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM INDIA Annual Event 2024 (Special Lecture Series)

Co-ordinators : Meenakshi D'Souza, Hirendra Nath Ghosh

[Lecture 1 - Inauguration - Meenakshi D'Souza, Hirendra Nath Ghosh](#)

[Lecture 2 - ACM: Goals, Priorities, Initiatives - Yannis Ioannidis](#)

[Lecture 3 - ACM India at a Glance - Venkatesh Raman](#)

[Lecture 4 - Fireside Chat with Robert Metcalfe - Robert Metcalfe, Pravin Bhagwat](#)

[Lecture 5 - Human Factors of Formal Methods - Shriram Krishnamurthi](#)

[Lecture 6 - ACM India Awards Ceremony 1 - Hemant Pande](#)

[Lecture 7 - ACM India Awards Ceremony 2 - Hemant Pande](#)

[Lecture 8 - Efficient Verification of Computation on Untrusted Platforms - Yael Kalai](#)

[Lecture 9 - The Story of 14Trees - Pravin Bhagwat](#)

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : ACM INDIA Winter School - Full-Stack Networking (FSN) (Special Lecture Series)

Co-ordinators : Multi-Faculty

- Lecture 1 - Introduction to Full-Stack Networking School
- Lecture 2 - Linux Networking Stack, Evolution of NICs, Evolution of Network packet processors
- Lecture 3 - Demo Session 1: Hands on with basic Linux networking commands
- Lecture 4 - Demo Session 2: Netfilter and iptables
- Lecture 5 - Intro to virtualization containers
- Lecture 6 - Demo session 1: Hands on with Docker
- Lecture 7 - Demo session 1: Hands on with Containers
- Lecture 8 - Demo session 1: Hands on with Kubernetes
- Lecture 9 - Container Networking : CNI service mesh, L7 Proxies, Overlay networks
- Lecture 10 - Container Networking : AWS, VPC, NAT, gateways
- Lecture 11 - Demo Session 1
- Lecture 12 - Multicloud
- Lecture 13 - Invited talk- Research Career
- Lecture 14 - eBPF
- Lecture 15 - eBPF for Networking
- Lecture 16 - Invited talks: Application Connectivity for the Multi-Cloud Era
- Lecture 17 - Application layer networking
- Lecture 18 - Invited talk: Performance Measurement and Optimization
- Lecture 19 - Invited talk: Chaos Engineering
- Lecture 20 - Websockets
- Lecture 21 - RPC: Remote Procedure Calls
- Lecture 22 - Invited talk: TiHAN Edge cloud testbed with WiFi/5G
- Lecture 23 - Demo Session: Application Layer Networking
- Lecture 24 - Message Queues
- Lecture 25 - Invited talks: Towards Expressive and Performant Service Meshes
- Lecture 26 - Advanced HTTP
- Lecture 27 - WiFi Tuned
- Lecture 28 - Multipath Networking
- Lecture 29 - Demo Session - Multipath networking