GATE DA
AI

About Me

VENKATESH E

🎓 Master's in AI from IIT Hyderabad

💼 MLE-3 at PayPal (ex-Qualcomm)

🏅 3+ years of Machine Learning Engineering experience

📚 Taught GATE Data Science on RBR Sir's platform (Gate DA - 2024)

📝 Published research papers in AAAI 2021 & ACL 2023

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📘 GATE Official Syllabus Breakdown

✅ Search: Informed, Uninformed, Adversarial
✅ Logic: Propositional Logic, Predicate Logic
✅ Reasoning Under Uncertainty: Conditional Independence Representation, Exact Inference (Variable Elimination), Approximate Inference (Sampling)

📝 Artificial Intelligence Chapter Breakdown

1️⃣ Introduction to AI & Problem Solving (3 hours)
Covers: What is AI? AI Applications, Problem Formulation, State Space Search, Problem Types (Deterministic, Stochastic, Adversarial)

2️⃣ Uninformed Search (6 hours)
Covers: Breadth-First Search, Depth-First Search, Uniform Cost Search, Depth-Limited Search, Iterative Deepening Search, Bidirectional Search — with examples and GATE-level problems

3️⃣ Informed Search (6 hours)
Covers: Best First Search, A*, Greedy Search, Heuristics Design, Admissibility, Consistency — with practice problems

4️⃣ Adversarial Search (5 hours)
Covers: Minimax Algorithm, Alpha-Beta Pruning, Evaluation Functions, Game Trees, Cut-offs — with GATE-level problem solving

5️⃣ Propositional Logic (5 hours)
Covers: Syntax and Semantics, Truth Tables, Tautology, Contradiction, Logical Equivalence, Normal Forms (CNF/DNF), Inference Rules, Resolution

6️⃣ Predicate Logic (6 hours)
Covers: First Order Logic (FOL), Quantifiers, Models, Unification, Forward Chaining, Backward Chaining, Resolution in FOL

7️⃣ Reasoning Under Uncertainty (7 hours)
Covers: Bayesian Networks, Conditional Independence, D-Separation, Exact Inference using Variable Elimination, Approximate Inference (Rejection Sampling, Likelihood Weighting, MCMC)

8️⃣ Problem Solving & GATE PYQs (5 hours)
Covers: Basic, Intermediate, and Advanced GATE Problems