GATE DA
PROBABILITY & STATISTICS

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

✅ Counting (Permutation & Combination)
✅ Probability Axioms
✅ Sample Space, Events, Independent & Mutually Exclusive Events
✅ Marginal, Conditional, Joint Probability
✅ Bayes' Theorem
✅ Conditional Expectation and Variance
✅ Mean, Median, Mode, Standard Deviation
✅ Correlation and Covariance
✅ Random Variables (Discrete & Continuous)
✅ Uniform, Bernoulli, Binomial Distributions
✅ Exponential, Poisson, Normal, Standard Normal, t-Distribution, Chi-Squared Distributions
✅ Cumulative Distribution Function, Conditional PDF
✅ Central Limit Theorem
✅ Confidence Interval
✅ z-test, t-test, chi-squared test

📝 Probability & Statistics Chapter Breakdown

1️⃣ Counting Principles & Probability Foundations (10 hours)
Covers: Permutations, Combinations, Sample Space, Events, Probability Axioms

2️⃣ Conditional Probability & Bayes' Theorem (8 hours)
Covers: Joint, Marginal, Conditional Probability, Independent Events, Bayes Theorem

3️⃣ Random Variables & Distributions (12 hours)
Covers: Discrete & Continuous Random Variables, PMF, PDF, CDF, Uniform, Bernoulli, Binomial Distributions

4️⃣ Advanced Distributions & Properties (10 hours)
Covers: Poisson, Normal, Standard Normal, t-distribution, Chi-Squared Distribution, Conditional PDF

5️⃣ Descriptive Statistics (6 hours)
Covers: Mean, Median, Mode, Variance, Standard Deviation, Correlation, Covariance

6️⃣ Central Limit Theorem & Sampling (7 hours)
Covers: CLT, Sampling Distributions, Confidence Intervals

7️⃣ Hypothesis Testing (6 hours)
Covers: z-test, t-test, chi-squared test, P-Values, Errors in Testing

8️⃣ Problem Solving & GATE PYQs (6 hours)
Covers: Basic, Intermediate, and Advanced GATE Problems