

6 STATISTICAL TOOLS FOR ANALYTICS

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1. Bayesian Inference

Stop ignoring your gut feeling. Bayesian methods combine your prior beliefs with new data. Essential when situations keep changing.

Example: Updating your fraud model as new scams pop up.

2. Hypothesis Testing & p-values

Is your result legit or just luck?
Hypothesis tests give clarity.
Understand p-values or risk chasing ghosts.

Example: Checking if that new website tweak actually boosts sales.

3. Confidence Intervals

One number won't tell the full story. Confidence intervals give you a range to trust—not guess.

Example: Estimating how many users will actually convert, within a realistic range.

4. Linear and Logistic Regression

Basic doesn't mean boring. These are the bread-and-butter tools that let you predict what's next. Also, they are my go-to tools for descriptive analytics.

Example: Predicting house prices or who's likely to unsubscribe.

5. Confusion Matrix, Precision & Recall

“Accuracy” alone is misleading.
Precision and recall show where your model truly stands.

Example: Evaluating medical tests where a missed diagnosis matters more than accuracy alone.

6. ROC Curves and AUC

Every decision involves trade-offs.
ROC curves show what happens when you shift your standards.

Example: Comparing two models for loan approvals and balancing false positives against true positives.