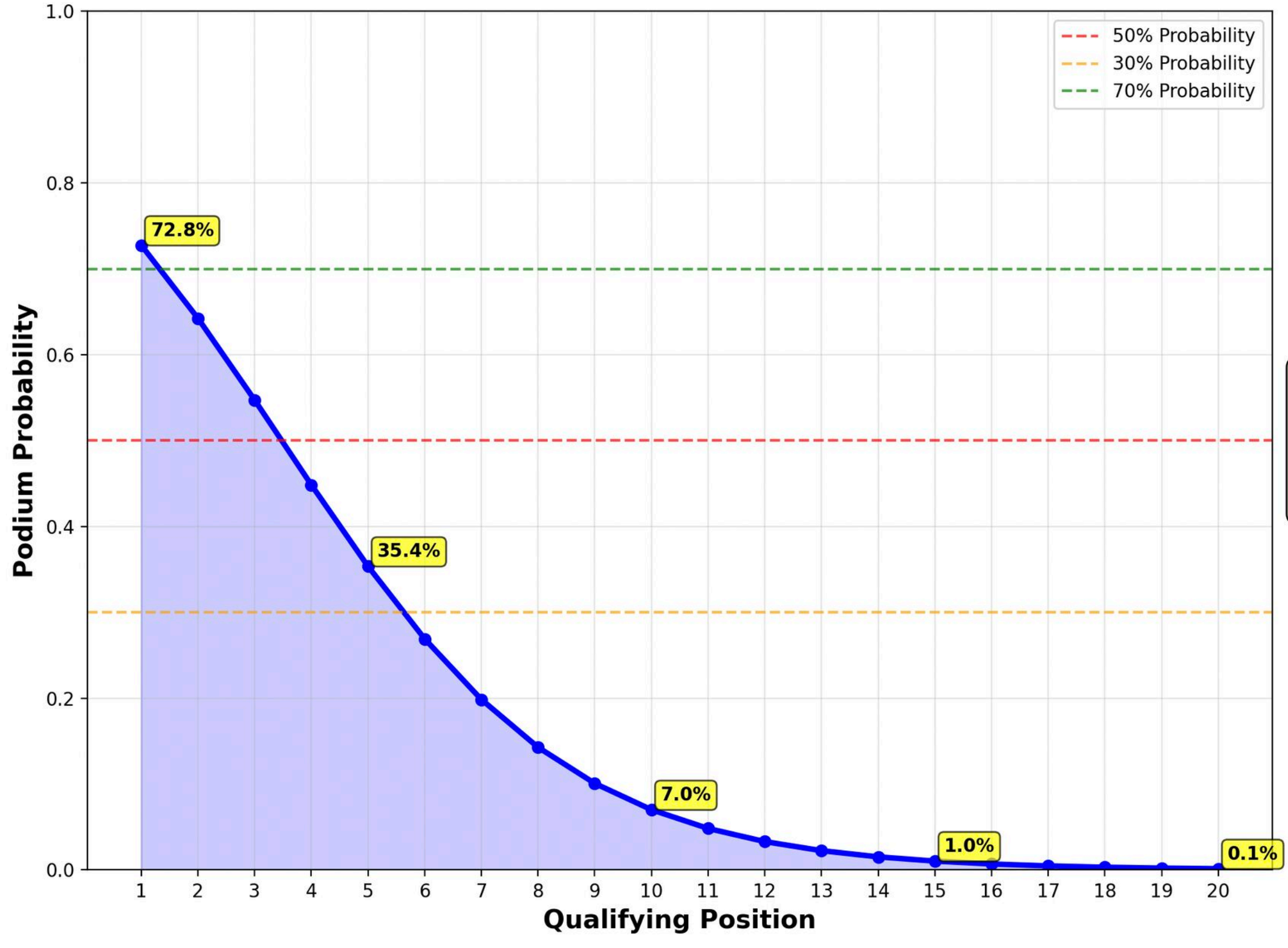
Figure 1

Lewis Hamilton Podium Probability vs Qualifying Position
Azerbaijan Grand Prix



Qualifying Impact Insights:
- P1: 72.8% podium chance
- P5: 35.4% podium chance
- P10: 7.0% podium chance
- P15: 1.0% podium chance
- P20: 0.1% podium chance
- Critical threshold: P4+

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=== MODEL TRAINING RESULTS ===
Logistic Regression:
  Accuracy: 84.21%, Precision: 75.00%, Recall: 85.71%, ROC AUC: 0.869
Random Forest:
  Accuracy: 68.42%, Precision: 57.14%, Recall: 57.14%, ROC AUC: 0.810
XGBoost:
  Accuracy: 68.42%, Precision: 57.14%, Recall: 57.14%, ROC AUC: 0.798

🎯 Best model: Logistic Regression (ROC AUC: 0.869)
=== MAKING PREDICTION FOR AZERBAIJAN ===
📊 Features for next race:
  grid_position: 12
  circuit_avg_finish: 4.6947368421052635
  recent_form: 5.666666666666667
  previous_finish: 6.0

🎯 LEWIS HAMILTON PODIUM PROBABILITY: 3.30%
📉 LOW CHANCE OF PODIUM

Based on:
• Qualifying: P12
• Recent form: 5.7 avg finish
• Previous race: P6.0
• Circuit history: 4.7 avg at Azerbaijan
```