

Model Optimization and Tuning Phase

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| Date | 18 February 2026 |
| Team ID | LTVIP2026TMIDS66233 |
| Project Title | Flavour Fusion: AI-Driven Recipe Blogging |
| Maximum Marks | 10 Marks |

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase focuses on improving the performance and quality of the generated recipe blogs by configuring and fine-tuning model generation parameters rather than training a neural network from scratch. Since the project uses a pre-trained generative AI model, optimization is achieved through prompt design and parameter tuning.

Hyperparameter Tuning Documentation:

| Model | Tuned Hyperparameters |
|-------------------|--|
| Gemini Flash Lite | <p>Temperature: Controls creativity of output (set to a moderate value for balanced creativity).</p> <p>Top-p: Limits token selection to the most probable tokens for coherent responses.</p> <p>Top-k: Restricts token sampling to reduce irrelevant content.</p> <p>Max Output Tokens: Ensures generated recipe blogs match the desired word count.</p> <p>Response Format: Set to plain text for easy display in the UI.</p> |

Final Model Selection Justification:

| Final Model | Reasoning |
|--|---|
| Gemini Flash Lite (models/gemini-flash-lite-latest) | Selected due to its fast response time, efficient resource usage, high-quality text generation, and seamless integration with Streamlit for real-time recipe blog generation. |