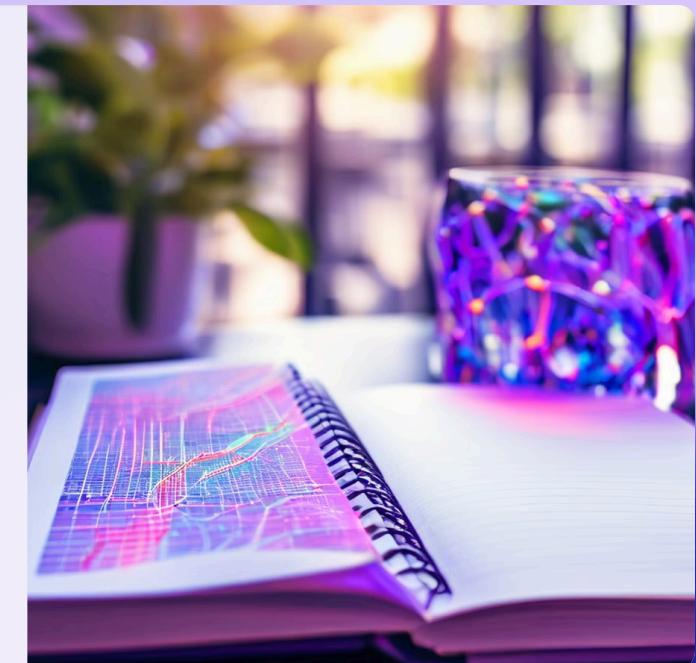


Generative Text Models: GPT & LSTM for Paragraph Generation

Explore the creation of text generation models. This presentation covers GPT and LSTM. Learn to generate coherent paragraphs on demand.

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Last edited about 11 hours ago



Introduction: The Power of Text Generation

Automated Content Creation

Generative models automate content creation. They reduce the need for manual writing.

Creative Applications

They open doors to creative applications. Examples include chatbots and story writing.

Efficiency in Communication

These models boost efficiency. They can quickly draft emails and reports.



Model Selection: GPT vs. LSTM

1 GPT: Transformers

GPT utilizes transformer networks. They are effective at capturing context.

2 LSTM: Recurrent Networks

LSTM employs recurrent neural networks. They are good for sequential data.

3 Strengths

GPT excels in broad contextual understanding. LSTM is strong in sequence learning.



Data Preparation & Training



Data Collection

Gather a large text dataset. This helps the model learn patterns.



Preprocessing

Clean and format the text. Remove irrelevant characters and normalize text.



Training

Train the model using prepared data. Adjust parameters for optimal results.

Implementation: Building the Model in Python

1

Libraries

Use TensorFlow or PyTorch. These provide the tools to build the model.

2

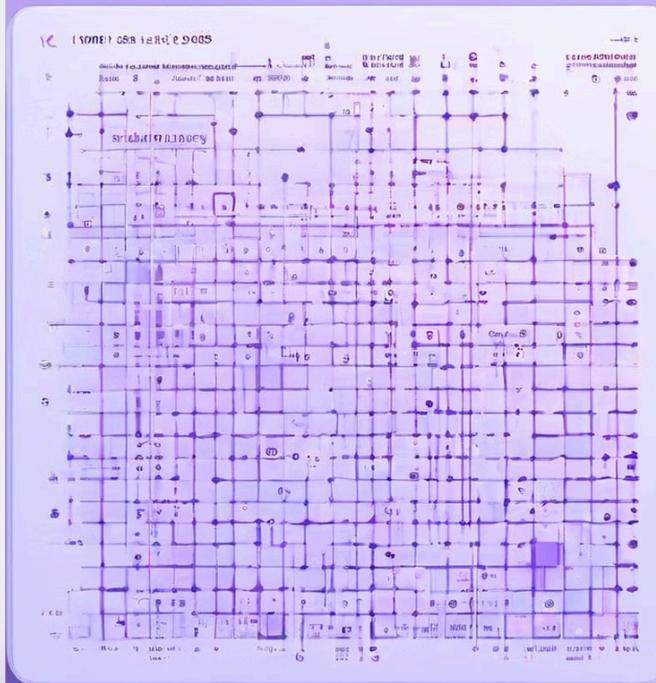
Define Architecture

Specify the model structure. Include layers and connections.

3

Training Loop

Create a loop to train the model. Update weights based on loss.



Demonstrations: Real-Time Text Generation



Input Prompt

Provide a starting sentence. This guides the model's output.



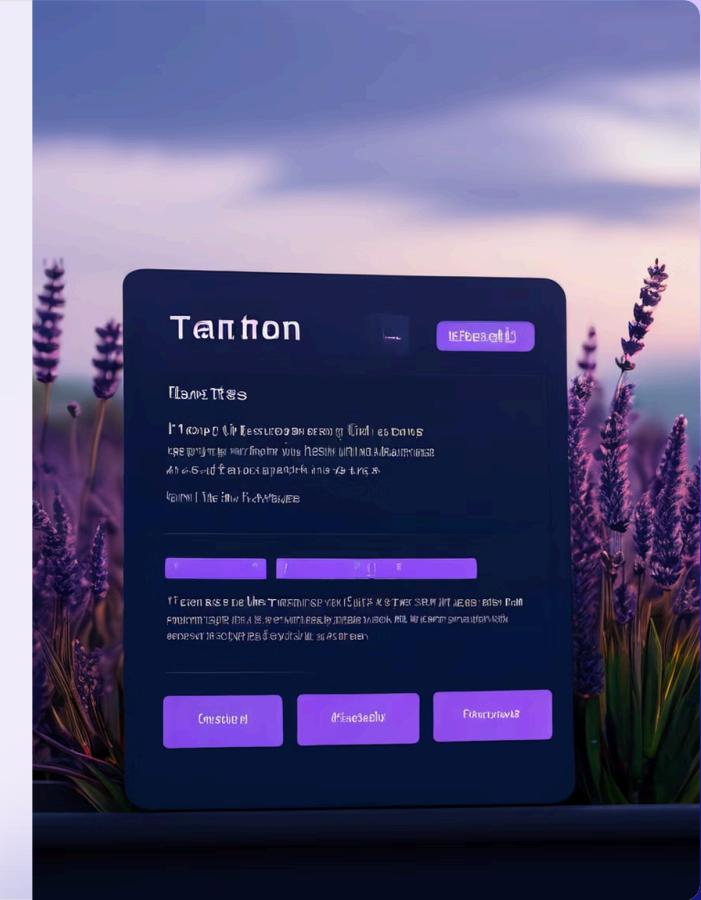
Model Prediction

The model generates text. It extends the given prompt.



Output

Review the generated text. Assess coherence and relevance.



Evaluation Metrics

2



1 Perplexity

Measure the model's uncertainty. Lower scores indicate better predictions.

2 BLEU Score

Assess text similarity. Compare generated text to references.

3 Human Evaluation

Have humans review outputs. They can judge coherence and relevance.

Conclusion: Applications & Future Directions

1

2

3

1 Content Generation

Automate article and blog writing.

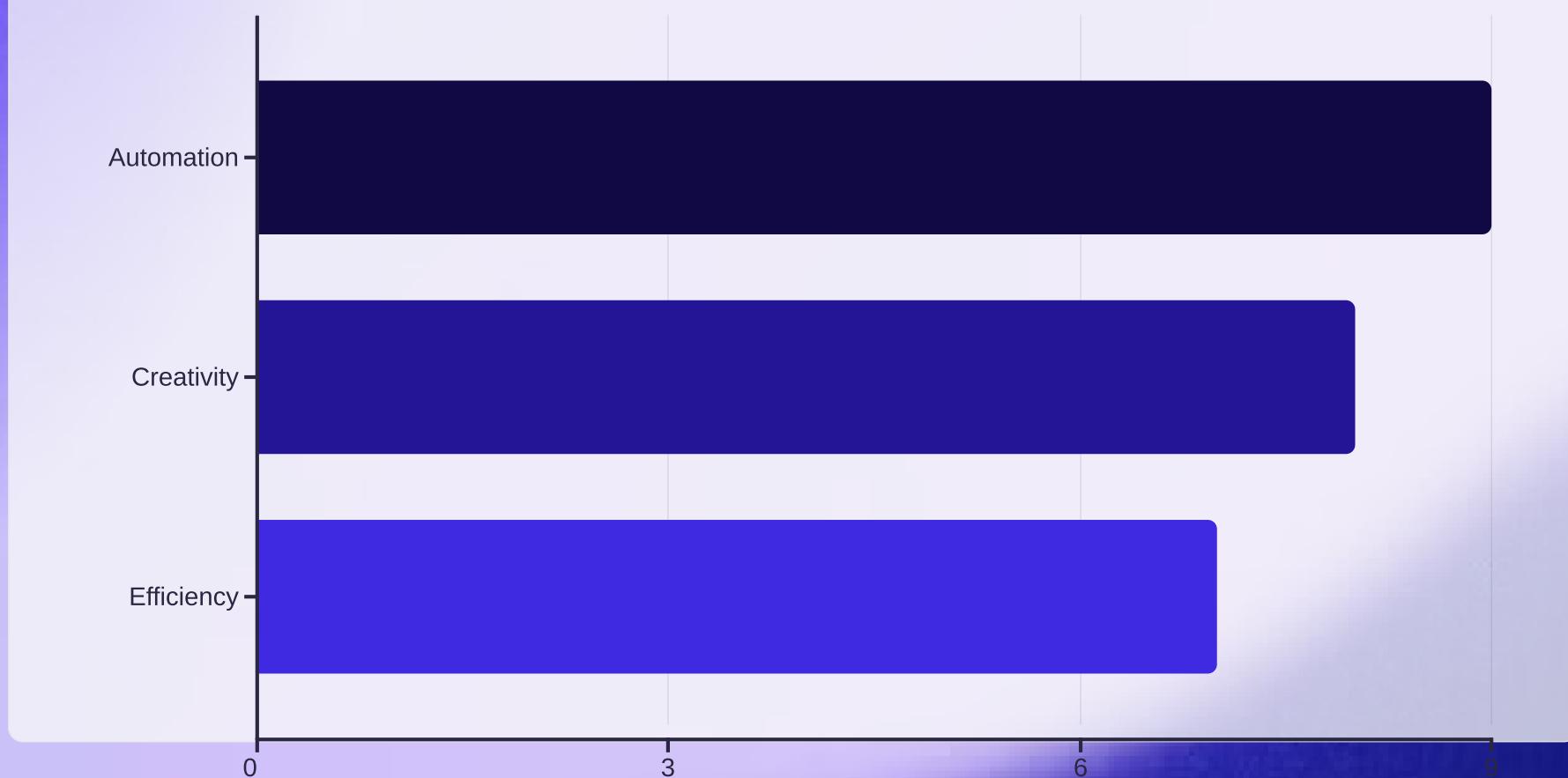
2 Creative Writing

Assist in composing stories and poems.

3 Chatbots

Enhance conversational AI capabilities.

Advantages



The model offers automation with a high score. It also provides strong creativity and efficiency.