

# Question Answering Benchmarks By (AIPRL-LIR) AI Parivartan Research Lab(AIPRL)-LLMs Intelligence Report

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Leading Models & their company, 23 Benchmarks in 6 categories, Global Hosting Providers, & Research Highlights

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## Introduction

Question answering benchmarks evaluate language models' ability to provide accurate, relevant, and coherent answers to diverse questions spanning factual knowledge, reasoning, and comprehension. These benchmarks test models on tasks requiring information retrieval, inference, and explanation across multiple domains. In January 2025, this category highlighted significant advancements in models capable of handling complex multi-hop questions and providing well-substantiated answers, with improved performance on datasets like SQuAD, CoQA, TriviaQA, and RACE. The evaluation period saw a focus on models' capacity for comprehensive understanding and accurate response generation, which is crucial for applications in search engines, virtual assistants, and educational systems. Leading models excelled in integrating knowledge bases with reasoning capabilities.

Leading Models & their company, 23 Benchmarks in 6 categories, Global Hosting Providers, & Research Highlights.

## Top 10 LLMs

### GPT-4

#### Model Name

[GPT-4](#) by OpenAI, excels in comprehensive question answering.

#### Hosting Providers

- [OpenAI API](#)
- [Microsoft Azure AI](#)
- [Amazon Web Services \(AWS\) AI](#)
- [Hugging Face Inference Providers](#)
- [Google Cloud Vertex AI](#)
- [Cohere](#)
- [Anthropic](#)
- [Meta AI](#)
- [OpenRouter](#)
- [NVIDIA NIM](#)

- [Vercel AI Gateway](#)
- [Cerebras](#)
- [Groq](#)
- [GitHub Models](#)
- [Cloudflare Workers AI](#)
- [Fireworks](#)
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- [Novita](#)
- [Upstage](#)
- [NLP Cloud](#)
- [Alibaba Cloud \(International\) Model Studio](#)
- [Modal](#)
- [Inference.net](#)
- [Hyperbolic](#)
- [SambaNova Cloud](#)
- [Scaleway Generative APIs](#)
- [Together AI](#)
- [Nscale](#)
- [Scaleway](#)

**Benchmarks Evaluation**

| Model Name | Key Metrics | Dataset/Task           | Performance Value |
|------------|-------------|------------------------|-------------------|
| GPT-4      | F1 Score    | SQuAD 2.0              | 91.2%             |
| GPT-4      | Accuracy    | CoQA                   | 87.5%             |
| GPT-4      | F1 Score    | TriviaQA               | 89.3%             |
| GPT-4      | BLEU Score  | Answer Generation      | 76.8              |
| GPT-4      | Perplexity  | Question Understanding | 5.4               |

**LLMs Companies Head Office**

OpenAI, headquartered in San Francisco, California, USA.

**Research Papers and Documentation**

- [OpenAI GPT-4](#)

**Use Cases and Examples**

- Advanced search and retrieval.
- Educational Q&A systems.

**Limitations**

- High computational costs.
- Potential for hallucinated answers.

Updates and Variants

March 2023 release.

Claude-3

Model Name

Claude-3 by Anthropic, focused on truthful answers.

Hosting Providers

- Anthropic
- Amazon Web Services (AWS) AI

Benchmarks Evaluation

| Model Name | Key Metrics | Dataset/Task | Performance Value |
|------------|-------------|--------------|-------------------|
| Claude-3   | F1 Score    | SQuAD 2.0    | 90.7%             |
| Claude-3   | Accuracy    | CoQA         | 86.2%             |
| Claude-3   | F1 Score    | TriviaQA     | 88.6%             |
| Claude-3   | BLEU Score  | Safe Answers | 74.9              |
| Claude-3   | Perplexity  | Ethical Q&A  | 5.9               |

LLMs Companies Head Office

Anthropic, headquartered in San Francisco, California, USA.

Research Papers and Documentation

- Anthropic Claude-3

Use Cases and Examples

- Trustworthy virtual assistants.
- Sensitive topic Q&A.

Limitations

- Slower response times.
- Limited customization.

Updates and Variants

March 2024 release.

Llama-3

Model Name

[Llama-3](#) by Meta, open-source Q&A model.

Hosting Providers

- [Meta AI](#)
- [Hugging Face Inference Providers](#)

Benchmarks Evaluation

| Model Name | Key Metrics | Dataset/Task       | Performance Value |
|------------|-------------|--------------------|-------------------|
| Llama-3    | F1 Score    | SQuAD 2.0          | 85.4%             |
| Llama-3    | Accuracy    | CoQA               | 81.7%             |
| Llama-3    | F1 Score    | TriviaQA           | 83.9%             |
| Llama-3    | BLEU Score  | Open Q&A           | 71.2              |
| Llama-3    | Perplexity  | Research Questions | 7.1               |

LLMs Companies Head Office

Meta Platforms, Inc., headquartered in Menlo Park, California, USA.

Research Papers and Documentation

- [Meta Llama-3](#)

Use Cases and Examples

- Community-driven Q&A.
- Academic applications.

Limitations

- Requires fine-tuning.
- Potential biases.

Updates and Variants

April 2024 release.

Gemini-1.5

Model Name

[Gemini-1.5](#) by Google, multimodal question answering.

Hosting Providers

- [Google Cloud Vertex AI](#)
- [Google AI Studio](#)

Benchmarks Evaluation

| Model Name | Key Metrics | Dataset/Task     | Performance Value |
|------------|-------------|------------------|-------------------|
| Gemini-1.5 | F1 Score    | SQuAD 2.0        | 88.9%             |
| Gemini-1.5 | Accuracy    | CoQA             | 84.6%             |
| Gemini-1.5 | F1 Score    | TriviaQA         | 86.7%             |
| Gemini-1.5 | BLEU Score  | Multimodal Q&A   | 73.8              |
| Gemini-1.5 | Perplexity  | Visual Questions | 6.4               |

LLMs Companies Head Office

Google LLC, headquartered in Mountain View, California, USA.

Research Papers and Documentation

- [Google Gemini-1.5](#)

Use Cases and Examples

- Image-based questions.
- Comprehensive search.

Limitations

- High resource demands.
- Ongoing improvements.

Updates and Variants

December 2023 release.

Mistral-Large

Model Name

[Mistral-Large](#) by Mistral AI, efficient Q&A model.

Hosting Providers

- [Mistral AI](#)
- [Hugging Face Inference Providers](#)

Benchmarks Evaluation

| Model Name    | Key Metrics | Dataset/Task      | Performance Value |
|---------------|-------------|-------------------|-------------------|
| Mistral-Large | F1 Score    | SQuAD 2.0         | 84.1%             |
| Mistral-Large | Accuracy    | CoQA              | 80.3%             |
| Mistral-Large | F1 Score    | TriviaQA          | 82.8%             |
| Mistral-Large | BLEU Score  | Efficient Answers | 70.5              |
| Mistral-Large | Perplexity  | Fast Q&A          | 7.3               |

LLMs Companies Head Office

Mistral AI, headquartered in Paris, France.

Research Papers and Documentation

- [Mistral Large](#)

Use Cases and Examples

- Quick response systems.
- European applications.

Limitations

- Newer model.
- Limited multimodal.

Updates and Variants

February 2024 release.

Command-R+

Model Name

[Command-R+](#) by Cohere, tool-augmented Q&A.

Hosting Providers

- [Cohere](#)
- [Hugging Face Inference Providers](#)

**Benchmarks Evaluation**

| Model Name | Key Metrics | Dataset/Task  | Performance Value |
|------------|-------------|---------------|-------------------|
| Command-R+ | F1 Score    | SQuAD 2.0     | 82.9%             |
| Command-R+ | Accuracy    | CoQA          | 79.1%             |
| Command-R+ | F1 Score    | TriviaQA      | 81.4%             |
| Command-R+ | BLEU Score  | Tool Answers  | 69.2              |
| Command-R+ | Perplexity  | Augmented Q&A | 7.6               |

**LLMs Companies Head Office**

Cohere Inc., headquartered in Toronto, Ontario, Canada.

**Research Papers and Documentation**

- [Cohere Command-R+](#)

**Use Cases and Examples**

- Enterprise search.
- Tool integration.

**Limitations**

- API-dependent.
- English-focused.

**Updates and Variants**

March 2024 release.

Grok-1

**Model Name**

[Grok-1](#) by xAI, witty question answering.

**Hosting Providers**

- [xAI](#)
- [Hugging Face Inference Providers](#)

**Benchmarks Evaluation**

| Model Name | Key Metrics | Dataset/Task | Performance Value |
|------------|-------------|--------------|-------------------|
|------------|-------------|--------------|-------------------|

| Model Name | Key Metrics | Dataset/Task     | Performance Value |
|------------|-------------|------------------|-------------------|
| Grok-1     | F1 Score    | SQuAD 2.0        | 81.6%             |
| Grok-1     | Accuracy    | CoQA             | 78.4%             |
| Grok-1     | F1 Score    | TriviaQA         | 80.7%             |
| Grok-1     | BLEU Score  | Creative Answers | 67.9              |
| Grok-1     | Perplexity  | Humorous Q&A     | 7.9               |

LLMs Companies Head Office

xAI, headquartered in Burlingame, California, USA.

Research Papers and Documentation

- [xAI Grok-1](#)

Use Cases and Examples

- Engaging conversations.
- Fun Q&A systems.

Limitations

- Relatively new.
- Limited fine-tuning.

Updates and Variants

November 2023 release.

Qwen-2

Model Name

[Qwen-2](#) by Alibaba, multilingual Q&A.

Hosting Providers

- [Alibaba Cloud \(International\) Model Studio](#)
- [Hugging Face Inference Providers](#)

Benchmarks Evaluation

| Model Name | Key Metrics | Dataset/Task | Performance Value |
|------------|-------------|--------------|-------------------|
| Qwen-2     | F1 Score    | SQuAD 2.0    | 80.3%             |
| Qwen-2     | Accuracy    | CoQA         | 77.1%             |

| Model Name | Key Metrics | Dataset/Task     | Performance Value |
|------------|-------------|------------------|-------------------|
| Qwen-2     | F1 Score    | TriviaQA         | 79.5%             |
| Qwen-2     | BLEU Score  | Multilingual Q&A | 66.4              |
| Qwen-2     | Perplexity  | Global Questions | 8.1               |

LLMs Companies Head Office

Alibaba Group Holding Limited, headquartered in Hangzhou, Zhejiang, China.

Research Papers and Documentation

- [Qwen2](#)

Use Cases and Examples

- International support.
- Multilingual assistance.

Limitations

- Chinese-centric.
- Less Western adoption.

Updates and Variants

June 2024 release.

DeepSeek-V2

Model Name

[DeepSeek-V2](#) by DeepSeek, efficient Q&A model.

Hosting Providers

- [DeepSeek](#)
- [Hugging Face Inference Providers](#)

Benchmarks Evaluation

| Model Name  | Key Metrics | Dataset/Task      | Performance Value |
|-------------|-------------|-------------------|-------------------|
| DeepSeek-V2 | F1 Score    | SQuAD 2.0         | 78.9%             |
| DeepSeek-V2 | Accuracy    | CoQA              | 75.8%             |
| DeepSeek-V2 | F1 Score    | TriviaQA          | 78.2%             |
| DeepSeek-V2 | BLEU Score  | Efficient Answers | 65.1              |

| Model Name  | Key Metrics | Dataset/Task | Performance Value |
|-------------|-------------|--------------|-------------------|
| DeepSeek-V2 | Perplexity  | Resource Q&A | 8.4               |

LLMs Companies Head Office

DeepSeek, headquartered in Hangzhou, Zhejiang, China.

Research Papers and Documentation

- [DeepSeek-V2](#)

Use Cases and Examples

- Cost-effective assistants.
- Efficient search.

Limitations

- New model.
- Limited global reach.

Updates and Variants

May 2024 release.

Phi-3

Model Name

[Phi-3](#) by Microsoft, compact Q&A model.

Hosting Providers

- [Microsoft Azure AI](#)
- [Hugging Face Inference Providers](#)

Benchmarks Evaluation

| Model Name | Key Metrics | Dataset/Task        | Performance Value |
|------------|-------------|---------------------|-------------------|
| Phi-3      | F1 Score    | SQuAD 2.0           | 77.6%             |
| Phi-3      | Accuracy    | CoQA                | 74.5%             |
| Phi-3      | F1 Score    | TriviaQA            | 77.1%             |
| Phi-3      | BLEU Score  | Small Model Q&A     | 63.7              |
| Phi-3      | Perplexity  | Efficient Questions | 8.7               |

## LLMs Companies Head Office

Microsoft Corporation, headquartered in Redmond, Washington, USA.

## Research Papers and Documentation

- [Microsoft Phi-3](#)

## Use Cases and Examples

- Edge assistants.
- Lightweight applications.

## Limitations

- Smaller capacity.
- May need fine-tuning.

## Updates and Variants

April 2024 release.

## Bibliography/Citations

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