

The Rapidly Evolving World of AI, Powered by Open Source

Report by Open Invention Network

AI's far-reaching impact and influence are greater than anyone could have imagined. It will rapidly change how we work & live, reshaping the future and setting the next stage for new levels of performance, entertainment & efficiency. We're at the cusp of another global transformation.

Open Source & AI are irretrievably intertwined, and will continue to be in the future. Here's a glimpse into historic AI milestones, global impact statistics, and a peak into Open Source AI trends.

6-in-10 companies are using Open Source ecosystems to source their AI tools & > 80% report at least 25% of their company's AI solutions or platforms are based on Open Source

2024 Global AI Market Size: \$621B (USD)

1,018% more AI models registered in 2024 over 2023

2023 Global AI Market Size: \$515B (USD)

Open Source AI HISTORIC MILESTONES

Mid-20th Century AI concept is born

As Open Source software advances, early AI research expands to include Symbolic Reasoning Systems & Rule-Based Expert Systems

1990s

Open Source Machine Learning (ML) & Statistical Methods research take shape

Early 2000s

Open Source ML libraries such as OpenCV (2000), Torch (2002) & Theano (2007) surface

2015 (Google Brain)

Open Source Deep Learning Frameworks (DLF) revolutionize AI with TensorFlow

2018 (Google)

Open Source AI text generation tools Natural Language Processing (NLP) evolve – BERT

2016

Hugging Face launches a hub for AI development & distribution

2019

Google introduces Open Source AI model T5

2020

Hardware advances by NVIDIA make possible the fruition of decades of AI research into practical use

2022

Meta announces first-of-its kind No Language Left Behind (NLLB) Open Source AI Large Language Model (LLM) which translates 200 languages

Stable Diffusion launches text-to-image AI generation program

Midjourney (Discord bot) releases AI image generation tool

2023

- Google introduces GEMMA
- Tools continue to evolve with new versions
- U.S. Senate holds inaugural AI Insight Forum
- U.S. President signs 1st Executive Order on AI
- UK hosts 1st Global AI Safety Summit

Jan 2024 - Jan 2025

- New AI models enter market
- 92% of Fortune 500 firms start using generative AI LLMs
- Chinese AI Company DeepSeek releases content & image generator

Open Source AI GLOBAL IMPACT

2023

Global AI market size \$515 Billion (USD)

2030

Global AI market expected to reach nearly \$1.8 Trillion (USD)

Greatest economic gains from AI



China 26% rise in GDP



North America 14.5% rise in GDP



India \$11.7 Million (USD) by 2025

Natural Language Processing (NLP) market

– significantly based on Open Source –

is expected to exceed \$112 Billion by 2030

AI appeared in 18% of all U.S. patent applications (Fall 2023)

80,000 AI patent applications were reported by The United States Patent & Trademark Office (USPTO) – 150% over 2022

149 AI models were globally registered between 2023 - 2024

76% of companies using LLMs choose Open Source

11x more companies recording AI experimental models compared to 2023

34% of all business related tasks today may be performed by machines

Open Source AI productivity gains for developers could contribute an estimated \$1.5 Trillion to the global economy by 2030

92% of Open Source developers

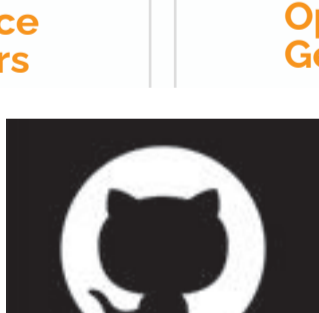
are using or experimenting with AI coding tools, driving the next wave of AI innovation on GitHub

Open Source Generative AI projects

enter the Top 10 most popular projects for 1st-time GitHub contributors

GitHub saw 2x the number

of Open Source Generative AI projects in the 1st six (6) months of 2023 – as in all of 2022



GitHub currently hosts around 237 million public repositories.

A significant portion are Open Source projects on GitHub, including generative AI

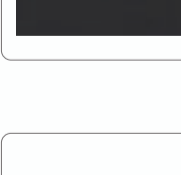
WATCH THESE NOTABLE PROJECTS



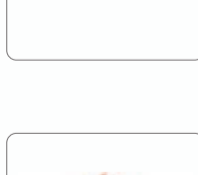
Autogen (Microsoft) –
An Open Source programming framework for building AI agents & facilitating cooperation among multiple agents to solve tasks



BLOOM (Hugging Face) –
176 billion parameters generate text in 59 natural languages & 13 programming languages



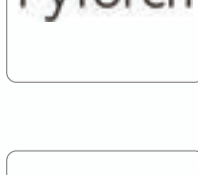
LangChain (Robust Intelligence / MIT) –
A popular framework for easily integrating LLMs into applications



PyTorch –
An Open Source deep learning framework used to develop Machine Learning models



Stable Diffusion (Stability AI) –
A text-to-image generator increasing in popularity for creative AI applications



Taipy (Alvaga) –
An Open Source Python library for easy, end-to-end application development

SOURCES:

Released January 2025

AI-Pro
Databricks Data Intelligence
Deloitte
Fact.MR
Forbes Advisor
Gartner
GitHub

Global Market Insights
Goldman Sachs
GrandView Research
IBEF.org
India Brand Equity Foundation
IMARC
Insight Partners

MarketsAndMarkets
OpenAI
PwC
Restack
Similarweb
Statista
USPTO