



The Indian Artificial Intelligent Startups: An Overview

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ABSTRACT:

In the area of artificial intelligence (AI) startups, India has experienced substantial development. Indian artificial intelligence firms have seen remarkable development and innovation, advanced a variety of sectors and used cutting-edge technology. Indian AI startups have significantly impacted a range of industries, including healthcare, education, banking, and agriculture.

In addition to government measures, a strong startup ecosystem in locations like Bengaluru has created a supportive environment for AI innovation. Their growth has been supported by investment and funding from both local and foreign sources, and partnerships with academic institutions have promoted cutting-edge research.

Additionally, several firms have adopted a social impact mindset to address important societal problems. Regulatory compliance and talent acquisition issues highlight the necessity for sustainable expansion. Growing worries about data security and ethical issues are reflected in the regulatory structure as it changes.

This summary gives a brief overview of the development of Indian AI businesses while recognizing their importance in the larger tech community. It is essential to read recent news articles and industry studies for the latest details on certain businesses, investments, and market trends.

Introduction:

Artificial intelligence (AI), one of its notable fields, has emerged as a lively and dynamic innovation hotspot in the Indian startup ecosystem. India has seen an astonishing rise in the number of AI companies over the past ten years, with each one pushing the envelope of technology to create cutting-edge solutions for a variety of sectors. The number of generative AI startups addressing data-driven whitespaces in the text and image, picture & video, and audio & video sectors has rapidly increased in India over the past years.

The report indicates that there are more than 550 active generative AI firms globally, and that in 2022, global private investments in generative AI will surpass USD 2.5 billion. The Indian ecosystem, on the other hand, boasts of 60+ generating AI startups with a funding boost of 12X. It's interesting to note that over 50 percent of companies emphasize text, graphics, and video. Additionally, Bengaluru India's startup center is home to many generative AI businesses, with Mumbai and Delhi-NCR coming in second and third, respectively. Despite a sizable number of AI businesses, 78% of them have not yet made their products available for sale. However, there is a great chance of the remaining 37 percent will find markets in the next 12 months.

'While science of AI did not get invented in India, we are great at converting the science into usable products; -- **Aakrit Vaish** (Co-founder & CEO, HAPTİK)

'Generative AI is not a magic. It's just the flavour of the year we need to think much much bigger than succumb to the trends and wherever the winds are blowing'.

-- **Ashwini Asokan** (Co- Founder & CEO, MAD STREET DEN)

Objective of study

- Understanding artificial intelligent and India's AI startup's introduction.
- What are the challenges face by Indian artificial intelligent startups and startups legal and ethical challenges.
- And looking for takeaways of Indian AI startups in future.

Methodology:

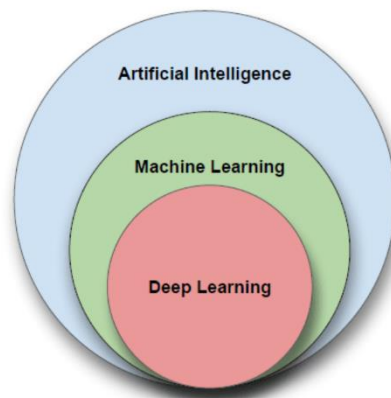
This paper focus on 5 major aspect of Indian AI startups and it start with understanding artificial intelligent, its techniques and different parameters. The further study focus on challenges faced by Indian artificial intelligent startups and we look for its solutions. Further more look for takeaways for Indian artificial intelligent startups.

Introduction to AI:

The capacity of robots to replicate or improve human intelligence, such as reasoning and experience-based learning, is known as artificial intelligence (AI). Although it has long been employed in computer programs, artificial intelligence is now used in a wide range of products and services. For instance, some digital cameras use artificial intelligence algorithms to identify the objects in an image. Experts also anticipate that artificial intelligence will be put to use in smart energy grids and many more novel applications in the future.

To answer real-world issues, AI employs methods from the theory of probability, economics, and algorithm design. In addition, computer science, the subject of mathematics, the discipline of psychology, and linguistics are all used in the AI discipline. Mathematics supplies methods for modelling and addressing the ensuing optimization problems, whereas science of computation provides tools for creating and implementing algorithms.

The area of computer science that is most in vogue is artificial intelligence. However, the amount of new research and technology is expanding so quickly that it might be difficult to recognize what is what. In addition, AI encompasses a wide range of disciplines, each with its own set of specialized algorithms. It is crucial to understand that AI is a discipline that combines several other fields rather than being a single field.



1. Neural network:

Neural networks are made up of layers of linked nodes called "neurons" that include mathematical algorithms to analyses incoming input and forecast an output value. These networks are modelled after the neurons that exist in the human brain. Similar to how individuals learn from their parents, instructors, and friends, artificial neural networks pick up new skills by watching what others do.

2. Deep learning:

Deep learning is a kind of machine learning which employs many layers of artificially generated neural networks to achieve cutting-edge accuracy in language translation, object identification, and speech recognition. A key component of autonomous automobiles is deep learning, which allows machines to analyses vast volumes of complicated data, such as identifying faces in pictures and videos.

3. Machine learning:

Machine Learning (ML) makes computers learn from data and experience to improve their performance on some tasks or decision-making processes. ML uses statistics and probability theory for this purpose. Machine learning uses algorithms to parse data, learn from it, and make determinations without explicit programming.

What is the difference between generative AI and traditional AI

1. Traditional AI:

Traditional AI, often referred to as narrow AI, or Weak AI, is a kind of artificial intelligence which focuses on carrying out predefined tasks in accordance with prescribed rules and algorithms. Traditional AI is designed to excel in a specific activity or a small collection of tasks, as compared to General AI, which strives to demonstrate human-like intelligence throughout a variety of tasks.

2. Generative AI:

A subset of artificial intelligence called "generative AI" is focused on the production and development of new content. It is also known as Strong AI or Creative AI.

An explanation of the differences between traditional AI and generative AI:

Generative AI as well as Traditional AI vary primarily in their goals and methods of operation. Generative AI moves beyond this restriction and attempts to produce completely new data that mimics human-created material. Traditional AI works to accomplish certain tasks based on predetermined rules and patterns.

CURRENT VIEW OF ARTIFICIAL INTELLIGENT IN INDIA

Generative Adversarial Networks (GANs), a new kind of system that produces realistic pictures, text, or audio, have emerged as a result of recent breakthroughs in AI. Some individuals are worried that this technology may eventually replace humans because of its exceptional skills. GANs are but one illustration of just how AI is altering our way of life. More recent AI examples and their uses in software systems like GPT3 and DALL.E are explored in this section.

India is change fast in the number of generative AI startups targeting data-driven empty spaces in the text and image, picture & video, and voice & video sectors has rapidly increased in India over the past few years. Here these are few notable Indian AI startups.

1. VerSe:

Provider of news and short video sharing apps. On the site, users may exchange entertaining and comedic films. Users may share videos in many other languages, including English, Hindi, Kannada, Tamil, Telugu, Malayalam, and more. Users may read news that has been compiled from various sources. The site makes use of AI technology to provide consumers with interesting material.

Company Overview:

Founded year	2007
Location	Bengaluru
Funding	USD 1.7B [funding details]
Investors	Luxor Capital Group, Ontario Teachers' Pension Plan, CPP Investments and 44 Other Investors [Investor details]

2. Ola Electric:

electric scooter creator. The firm creates electric scooters with the S1 Pro, S1 Air, and S1 models that include high-speed range, 8.5 kW engine range, a variety of color options, etc. It creates scooters with robots that are AI-enabled and promises to provide people sustainable and environmentally friendly rides. In order to create its own cell technology, the business is also creating electric vehicles and its own battery innovation Centre.

Company Overview:

Founded year	2017
Location	Bengaluru [India]
Funding	USD 866M [funding details]
Investors	Alpine Opportunity Fund, Tekne Private Ventures, Edelweiss and 47 Other Investors [Investor details]

3. Fractal

A company that offers data analytics, development of software, and other services. Forecasting, insights into customers, customer life cycle administration, data engineering, online seminars, and event services are all part of its offering. Eugenie.ai, Senseforth.ai, Theremin.ai, Analytics Vidhya, Samya.ai and Qure.ai are some of its products.

Company Overview:

Founded year	2000
Location	Mumbai (India)
Funding	USD 685M [funding details]
Investors	Khazanah Nasional Berhad, TPG, Apax, and 7 Other Investors [Investor details]

4. Uniphore:

Platform powered by AI and the cloud that provides conversational automation of services solutions. Its products include conversational assistants, engagement with clients, insights, and analytics software, as well as software for language security, automation, and analytics. Customers are engaged using speech to make it work.

Company Overview:

Founded year	2008
Location	Chennai (India)
Funding	USD 658M [funding details]
investors	GoldenArc Capital, March Capital, New Enterprise Associates and 117 Other Investors [investors details]

5. Icertis:

Software platform for managing contracts throughout their lifespan. It makes use of AI to provide users the ability to design, automate, and offer insights into the contracting process. It offers CLM services for brands so they can handle third-party paperwork and real-time information. Contract properties and clauses are recognised by the AI, which then links them to the relevant contract type.

Company Overview:

Founded year	2009
Location	Pune (India)
Funding	USD 520M [funding details]
Investors	SVB, SAP, B Capital Group and 20 Other Investors [investors details]

A challenge faced by Indian AI startups:

The area of artificial intelligence (AI) is overcoming obstacles in a variety of sectors, including e-commerce, healthcare, education, and financial services, among others. AI has suddenly become popular, along with the hoopla around it. Numerous teams lack substance, it is challenging to comprehend and assess the possibilities, there is a shortage of talent, there is a lack of entrepreneurship experience, there is rivalry from other AI businesses, and the list of problems goes on. The inability to climb quickly, however, is what makes the region the most difficult. Although many businesses are starting out, relatively few of them are able to scale significantly over time in terms of number of workers, product distribution, revenue creation, etc.

Few factors, according to AIM, may make it difficult for AI firms to grow quickly in the Indian market.

1. Are they really AI startups?

At the Bangalore Tech Summit, [Samir Kumar](#) of Inventus Finance Partners stated that several businesses have claimed to be machine learning (ML) and AI startups over the past two to three years. Every business wants to call itself an artificial intelligence startup due to the phrase' extreme popularity.

Even while the majority of businesses employ machine learning, they are not necessarily AI businesses. A system may only be considered an artificial intelligence firm if it is built on self-learning algorithms and has the capacity to decide for itself. It should be able to simplify the complexity of the human world and should be driven to continuously improve itself. A successful artificial intelligence system often needs a good combination of NLP, deep learning, and associated technology, which most firms operating in the so-called "AI space" neglect to realize. Such startups risk losing their perspective and vision over time, never reaching the level of success they may have hoped for.

2. Lack of right talent and understanding of subject:

Every successful startup requires the ideal fusion of various abilities. Similar to this, any AI firm needs more founders that are science-focused and can appreciate complicated models containing a lot of math as well as problem-solving abilities. Some advantageous talents are those in physics, robotics, cognitive science, or computer science with an emphasis on machine learning.

Building an AI company requires perseverance and patience, and the skill pool may still be underdeveloped, leaving the majority of AI firms without the necessary personnel. "The main issue we have is a skill gap, particularly in deep learning. Finding many competent people who are knowledgeable about these forms of technology and aware of other cutting-edge research and algorithms is still a challenge. Ankit Narayan Singh, the co-founder as well as CTO of ParallelDots, told AIM in an interview that they still need to hire individuals who lack considerable expertise in this field and struggle to find the suitable personnel in the USA along with different countries.

Lack of the proper skills might prevent the growing up of the AI firm because the right people are essential to fostering growth.

3. Unpredictable nature of AI as products may fail to stand the test of time:

It may be difficult to scale up a firm, and not everyone has the same success at creating the ideal solution as Dr. Harpreet Singh as well as his colleagues at [iNICU](#). He had claimed in an interview with AIM that they were aware of the formula for developing a product, assembling an appropriate team, and bringing in the proper mentor for domain expertise because they had witnessed the distribution of two products that were successful in India and the US.

"By talking with the consumers about the acceptability of the product, we progressed with each stage of our product development. We were able to refine our offering and provide a solution that was widely acceptable because to these regular encounters, he had stated. However, not all AI firms will see

success with their products, let alone see them endure. The publicized achievements in the realm of artificial intelligence could not correspond to actual outcomes, as Adarsh Natarajan, the inventor of AIndra, had stated. Working without the aid of earlier literature is difficult and can be difficult to cope with at times in a young discipline like AI.

It's crucial to comprehend current research thoroughly and be able to design products using that information. It's crucial to include potential clients in order to comprehend their difficulties and collect their information. Data access is the key.

4. Vulnerability to factors like competitors, lack of funding, lack of clear metrics:

Artificial intelligence has emerged as the new global software. There is a tone of hidden AI that has a tone of promise in every industry. However, several teams in the area of AI are unsure about where to start. Clear metrics are lacking for AI businesses. Currently, it is challenging to accurately assess how excellent or awful an AI firm is. Additionally, a lot of businesses are emerging in the area due to the excitement around AI as well as its rising popularity, which is fueling strong rivalry.

Since evaluating AI technology may be so difficult, many [investors](#) are hesitant to do it as well. Despite being a hot topic, most VCs are reluctant to take a chance on an investment in a field they are unfamiliar with. As you can see, AI businesses get a lot of interest, but not sufficient to secure investment. Everyone is familiar with e-commerce, but comprehension of cognitive systems is more difficult.

Lack of a scalable product and inexperienced AI the founders may further cast doubt on the startup's long-term viability.

5. Product development may test your patience:

It may take a very long time to develop an AI system, and it is typical to have to wait a minimum of two years before any money starts coming in. The enormous difference between a theoretical concept and a finished product makes it difficult for creators to believe in their concept and to keep investors' faith in it.

In order to fully grasp potential customers' challenges and train models in response, product creation in AI necessitates considerable engagement with them. This can be costly and time-consuming. Finding the ideal balance among research and its implementation may also be difficult. The result could not be technically sound if it is constructed too quickly. On the other side, a startup may lose the ideal window of opportunity to join the market if it requires a long time to develop a product. Gaurav Tripathi, co-founder of Innoplexus and an AI firm, stated that some of the biggest problems they have as an AI startup include collecting the correct data, the nature of the data, breaking down barriers of belief, and employing the appropriate technologies.

Therefore, while creating an AI product, it's crucial to have trust and strike the proper balance.

Key takeaways:

- Artificial intelligence has improved with time, becoming generative AI, and will eventually take the form of artificial general intelligence.
- In 2022, the total amount of private funding in AI has surpassed USD 92 billion. More than 60% of these investments go towards apps for text and visual media.
- There are 14 generative AI unicorns worldwide.
- With over sixty percent generative AI businesses in the nation, India's AI startup ecosystem has performed well.
- Nearly 80% of Indian generative AI businesses are developing their own solutions.
- Over USD 590 million was invested in generative AI, of which 70% was received in 2022 alone.
- Indian generative AI businesses provide solutions across key areas, similar to their international counterparts. Text development, chatbots and artificially intelligent devices, as well as the production of images and videos, are the most frequent use-cases.

Conclusion:

The inventiveness, tenacity, and transformational potential of technology are demonstrated by the Indian AI startup ecosystem. With firms utilizing artificial intelligence across a variety of industries, include health care, online shopping, agriculture, finance, schooling, manufacturing, and smart cities, the Indian AI startup environment has seen considerable development and innovation. SigTuple, Zebra Medical Vision, Rapido, Uniphore, Niramai and other well-known Indian AI businesses were making important contributions to their respective fields.

The patterns in Indian man-made intelligence new companies mirrored a different scope of utilizations, with a solid accentuation on medical services arrangements, where man-made intelligence was being utilized for diagnostics and patient consideration. Moreover, areas like online business, horticulture, fintech, and training were additionally embracing simulated intelligence to improve their activities and contributions.

Kindly note that the scene might have developed altogether since my last update, and counseling late hotspots for the most recent data on Indian artificial intelligence new businesses and their activities is fitting. The Indian computer-based intelligence startup environment is dynamic and holds guarantee for proceeded with development and advancement later on.

References:

1. <https://www.linkedin.com/pulse/top-10-ai-startups-india-chandan-thakur-a-i-marketing->
2. <https://tracxn.com/explore/Artificial-Intelligence-Startups-in-India>
3. <https://indiaai.gov.in/research-reports/generative-ai-startup-landscape-in-india>
4. <https://www.upgrad.com/blog/generative-ai-vs-traditional-ai/>
5. <https://analyticsindiamag.com/top-5-challenges-holding-back-ai-startups-scale-fast/>