# Pakistan must act now to harness the power of artificial intelligence for national growth



Every day, millions around the world engage with artificial intelligence (AI) technologies in ways they may not even recognise. For example, Rehan, a 28-year-old software engineer living in Karachi, routinely interacts with AI via platforms like TikTok and ride-hailing services such as Careem. Algorithms anticipate his preferences, optimize his ride in real-time, and even influence the music his driver plays. This seamless integration of AI into everyday life is illustrative of a global trend — one from which Pakistan, despite its growing digital footprint and youth demographic, remains notably absent in terms of coordinated national engagement.

Globally, AI investment soared to an unprecedented $252 billion in 2024 alone, with the United States leading investments at $109 billion, marking a 160% increase compared to the previous year. This surge underscores AI’s transformation from a niche technology to a driver of economic growth and industrial innovation. Countries worldwide are embedding AI in government policy, industry, and society at large. For instance, China stands out with its ownership of nearly 70% of AI patents and a comprehensive state-backed plan to become the world’s AI powerhouse by 2030, integrating AI in smart cities, manufacturing, health, and defence. India has launched a $1.25 billion IndiaAI Mission, pushing AI into healthcare, agriculture, education, and language services across 22 local languages, while Bangladesh’s Vision 2041 incorporates AI education and digital service modernisation.

Pakistan, in stark contrast, does not feature prominently in global AI investment, research, or policy reports. It lacks a comprehensive national AI strategy, significant government funding, and widespread AI integration in education or public infrastructure. While private actors in Pakistan have initiated AI-driven solutions—such as startups in telehealth and e-commerce platforms like Daraz employing AI for product recommendations, fraud detection, and multi-language support—these efforts remain fragmented and primarily market-driven without an overarching national framework.

In education, Pakistan faces substantial gaps. Unlike neighbouring countries embedding AI and computer science into school curriculums, Pakistan’s public education system offers little to no AI education at the K–12 level. While universities such as NUST, FAST-NUCES, GIKI, COMSATS, and ITU Lahore provide AI-related degrees and research opportunities, these are limited predominantly to urban centres and higher education, with little outreach or policy-driven integration into the broader education system. According to Professor Dr Yasar Ayaz, Chairman of the National Center of Artificial Intelligence (NCAI), “the progress remains urban, elitist, and fragmented.” Without coordinated efforts linking academia, industry, and government, AI education risks remaining inaccessible to vast sections of the population.

Private initiatives are filling some gaps, with organisations such as Saylani Welfare Trust and PIAIC providing AI training to thousands, inclusive of women-focused coding bootcamps like CodeGirls and Standard Chartered Women In Tech Pakistan. Nevertheless, these programmes rely heavily on volunteerism and external funding, and thus their reach and sustainability remain limited. Dr Ayaz emphasises the importance of scaling such initiatives beyond major cities to underserved communities to democratize AI education nationally.

On the infrastructure front, Pakistan lacks key elements such as a national AI supercomputing facility, comprehensive cloud infrastructure, public data governance laws, and an AI ethics framework. This absence hampers the country’s capacity to develop locally relevant AI innovations and retain talent, with many trained individuals migrating abroad for better opportunities.

Sector-wise, AI adoption in Pakistan is uneven and mostly confined to private e-commerce, logistics, and some health startups. Other industries, including finance, agriculture, and manufacturing, are still largely untapped regarding AI-enabled efficiencies. Similarly, public sector AI applications, which in other countries contribute to smarter governance, disease surveillance, and climate resilience, remain sparse in Pakistan.

Regionally, Pakistan’s neighbours continue accelerating AI integration. China’s AI dominance in patents and research is complemented by significant investments in AI hardware, software, and city-scale deployments. India’s comprehensive AI ecosystem, combining policy support, infrastructure, education reform, and entrepreneurial backing, is positioning it as a regional leader. Bangladesh and Sri Lanka are implementing AI within long-term development plans and pilot projects addressing national challenges. Pakistan, however, risks being marginalised in this emergent regional AI landscape without strategic intervention.

The repercussions of Pakistan’s current trajectory are materialising. Economically, Pakistan misses out on productivity gains associated with AI adoption observed globally, which range up to 40% in sectors like healthcare and manufacturing. The workforce remains largely unprepared for AI-driven transformations, posing risks to employment in traditional industries such as textiles and agriculture. Socially and politically, lack of AI governance frameworks exposes the country to risks from misinformation, AI-generated fraud, and other digital vulnerabilities.

To address these issues, experts advocate for urgent national action. Key recommendations include:

* Formulating and implementing a national AI policy to provide clear guidelines, budget allocations, and accountability mechanisms.
* Introducing AI and digital literacy into public school curricula from Grade 6 onward, supported by teacher training and infrastructure development, including offline solutions for rural areas.
* Establishing a national AI innovation fund to support startups, university research, and public-private partnerships aimed at locally relevant AI solutions in Urdu and regional languages.
* Advancing legislative frameworks around AI ethics, data privacy, cybersecurity, and responsible AI deployment.

As Dr Ayaz states, “Through visionary programs and human capital investment, Pakistan has a real chance to leapfrog into the future. But we must act fast to make AI a cornerstone of national growth, not a privilege for a few.”

Under the stewardship of the National Center of Artificial Intelligence, Pakistan has initiated a 10-year AI roadmap aligned with the broader URAAN Pakistan digital transformation vision. This strategic plan targets twelve sectors, including healthcare, agriculture, fintech, and defence, seeking to position AI as a national growth lever. However, success depends on government commitment, legislative action, and broad-based educational and infrastructural investments.

In summary, while AI permeates many aspects of everyday life and is driving the next industrial revolution worldwide, Pakistan remains at a critical juncture. With the talent, ambition, and some private-sector momentum present, the path forward demands coordinated national effort to avoid lagging behind neighbours and to fully participate in the rapidly evolving global digital economy.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.balto.ai/blog/how-ai-already-impacts-our-lives-in-unforeseen-ways/> - This article supports the claim that AI is integrated into everyday life, often without users realizing it, by discussing various examples such as customer service chatbots and self-driving cars. It highlights how AI impacts society, which aligns with the global trend of AI adoption.
2. <https://builtin.com/artificial-intelligence/examples-ai-in-industry> - This page lists numerous examples of AI in industry, including smart virtual assistants and self-driving cars, which underscores AI's role in driving innovation and economic growth. It shows how AI is transforming industries worldwide, as mentioned in the article.
3. <https://digitalmedianinja.com/blog/17-best-examples-of-how-ai-is-already-used-in-our-everyday-life/> - This blog post provides examples of AI in everyday life, such as Google Maps and smart assistants, illustrating how AI enhances efficiency and personalizes experiences. It supports the article's mention of AI's subtle yet profound impact on daily routines.
4. <https://formidableforms.com/examples-of-ai-in-everyday-life/> - This article details AI's presence in various aspects of life, including facial recognition, content creation, and search algorithms. It corroborates the article's point about AI's widespread integration into modern life, influencing numerous sectors.
5. <https://insights.daffodilsw.com/blog/20-uses-of-artificial-intelligence-in-day-to-day-life> - This blog outlines 20 uses of AI in daily life, including image recognition and voice assistants. It supports the article's assertion that AI is transforming numerous sectors, such as healthcare and e-commerce, and highlights its potential in various industries.
6. <https://www.noahwire.com> - While not directly linked to AI information, this source could provide context or news on AI advancements and its economic implications, potentially supporting the article's discussion on AI investment trends and regional comparisons.
7. <https://news.google.com/rss/articles/CBMihgFBVV95cUxPOXkxbkhHMG9lajM3NTM2cG5FM0NWN3AwckhYaHRxRVcydWwzNzNkYlFDblFSS3JpMEJoYW50SE9aVVZieHdHa3daUUhtcm4wc3h6VWMxQ3VQaHNHWlhUXzVVREZ1ZUVBd0l2dTJYWW5OME9STXNtaUQtV3hWaEQ5MnZ1aG5OQdIBjgFBVV95cUxOVnB4TzN6V2kyemQxV3lVNWRiSUpRZFpqelhWTWhNZkhFd09qUDBYZk5fdlJtc0RTU3RRRE45dkU3cDhSUVo5TzlEX2U3ZlEzRnluX2t4LXFGMkF0aGJ3MHJEQUZFODRkMnJ4SFdfV2E5RHY3d1AxZUNBb004MkVTZGxzSEJPZjdhbGFYNVpB?oc=5&hl=en-US&gl=US&ceid=US:en> - Please view link - unable to able to access data