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## Meet the AI Expert Building Indic LLMs with llTs

Aman Chadha, the Stanford University alumnus and head of a generative AI research team at AWS is building medical Indic LLMs with llT Patna.

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Illustration by Nikhil Kumar

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Researchers from IIT Patna, alongside Stanford University, recently introduced [MedSumm](#), a multimodal approach that amalgamates Hindi-English coded medical queries with visual aids, providing a more comprehensive perspective on a patient's medical condition.

AIM got in touch with the researcher from Stanford University, [Aman Chadha](#), who is currently working on building a [medical large language model](#) for India on top of Sarvam AI's OpenHathi, and would be releasing the research paper soon.

Given the amount of Indic languages speakers all over the world, Chadha expressed his happiness that models like Bharat GPT, Sarvam AI and Kissan AI are coming up. "But there's nothing on the healthcare or the medical side," he added, saying that he has been tracking all the recent announcements. "We thought we'd plug that gap."

Chadha currently leads a generative AI research team at AWS. The [Einstein Visa](#) holder completed his graduate studies in AI from Stanford University, Master's from University of Wisconsin, and his Bachelor's from University of Mumbai.

Later he worked with NVIDIA, Qualcomm on their AI Engine, with Apple on the M1 Chip and multimodal AI models, and with Amazon on Alexa on speech recognition, Chadha is now also partnering with Indian premier institutes for driving India's AI moment and is very passionate about building an LLM architecture for India.

### First Indic medical LLM

Along with IIT Patna, Chadha aims to build India's first medical LLM that supports Hindi and a bunch of other Indic languages. "Many large-scale companies and startups have their own medical LLMs, focused on medical and healthcare," he explained, adding that even though Google has its own MedPaLM, and others as well, none of them are focused on Indic languages.

Emphasising the importance of building Indic LLMs, even though MedSumm dataset was summarised using Llama 2, Mistral, Zephyr, Flan-T5, and Vicuna, the researchers are now focusing on utilising other models.

Chadha said that although the team is not building an LLM from scratch, they are using OpenHathi as the base LLM, and fine-tuning it on medical data in Indic languages. "But this makes it difficult for the model to be well versed with medical jargon, which is a big ordeal," he explained.

Apart from this research, Chadha also collaborated on research papers such as ["CLIP-SymNet: CLIP and LLM Synergy for Multimodal Question Summarization in Healthcare"](#) which will be presented at AIAI 2024, one of the premier conferences in AI, and ["Counter Turing Test C1": AI-Generated Text Detection is Not as Easy as You May Think - Introducing AI Detectability Index](#), which won the Outstanding Paper Award at EMNLP 2023, another prestigious AI conference.

"We're attempting to create something that surpasses the current standard of patient diagnosis. This is not intended to replace the doctor but to provide the doctor with supplementary insights based on the symptoms," explained Chadha.

Highlighting the shortage of computation, specially in India, Chadha said that the researchers from IIT Patna are trying to make these datasets and AI models in a very efficient way. "We don't want researchers to go through a bottleneck because of compute or the amount of data," he added.

Currently, a lot of research and these models are being trained on NVIDIA GPUs, which he says are still very difficult to get hands on. "The story would be very different if you were Meta, Google, Amazon, or Apple with access to tonnes of GPUs, where you're solely limited by your imagination," he added. "However, I think constraints breed ideas."

### Indic all the way

"We're trying to have this model pick up on a lot of these terms as a first pass and then fine-tune on being able to answer questions and give coherent responses and logical responses and be helpful at the end of the day in a medical context," Chadha explained.

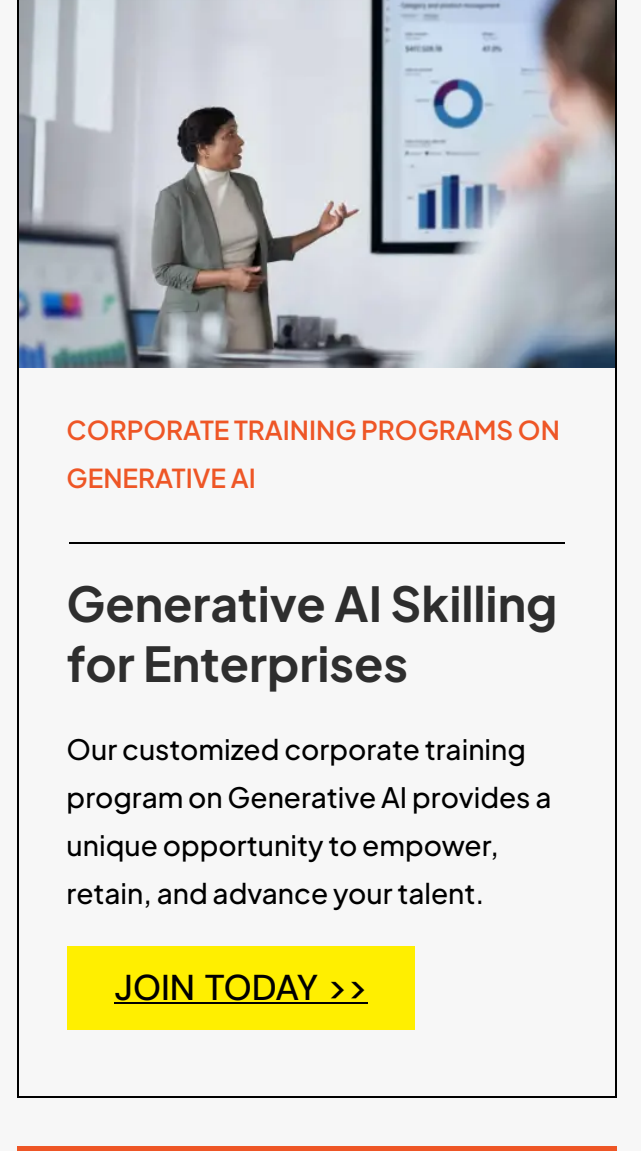
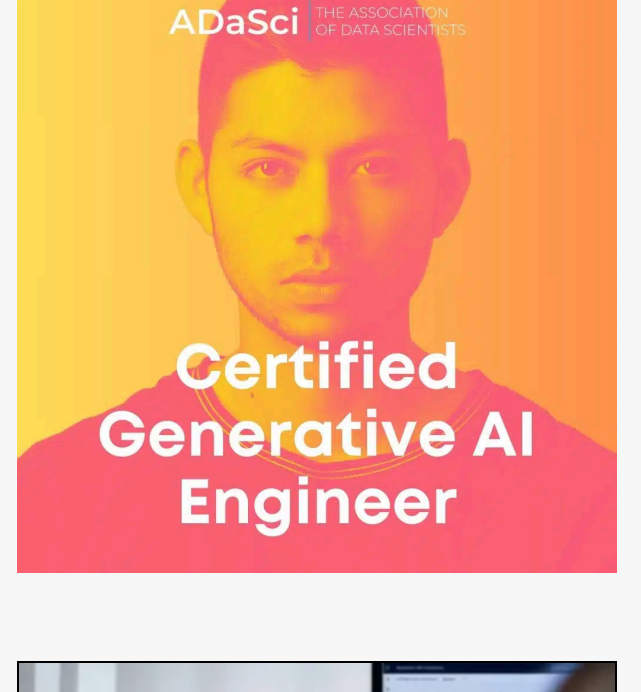
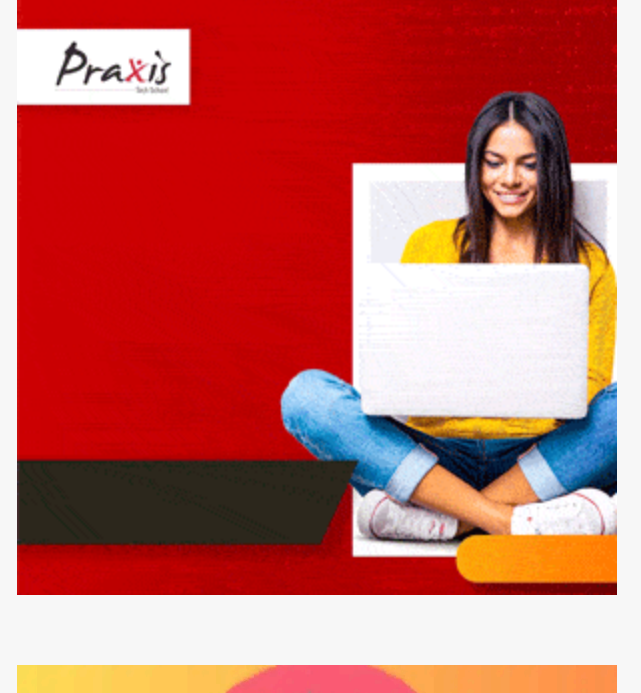
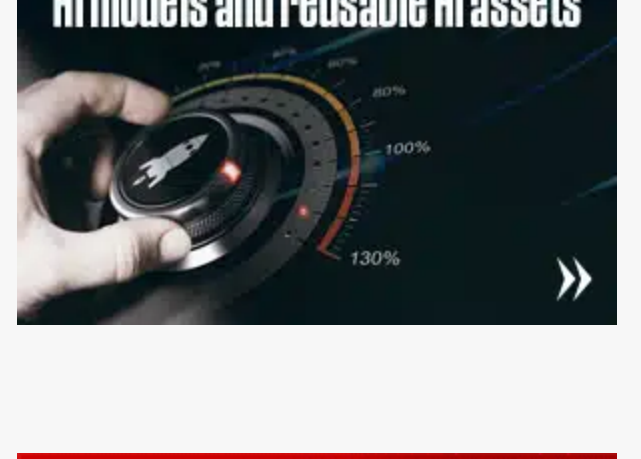
Talking about Dr [Setu Sinha](#) from Indira Gandhi Institute of Medical Sciences who is the medical expert for the paper, he said that the researchers want to make sure that all the collected data is free of restrictions and covers all the policies. "We obviously want to focus on patient privacy and thus we collect only data that is anonymised," he added, saying that the researchers are using an open source dataset.

Since most of the open source dataset is in English, the researchers are looking to adopt techniques that translate the information without losing the quality of the data, which he says is a major point to focus on. "It's not just the lack of models, but also the lack of data. That is why we are also building a dataset," he added about MedSumm.

"There is definitely no shortage of talent in India. The only problem is data and compute," added Chadha emphasising that he has spoken to top talents from IITs in the country. He highlights that it is important for the government to fund more such initiatives.

"It's akin to having a car but not enough fuel to take it for a spin," Chadha added about the need for data, likening the car to talent and the fuel to the data and compute that powers AI models. "The hope is that once we put something out, the bandwagon then begins. Folks put more stuff out and like I said, the dataset piece is very important because once you make that available, people start to utilise it in various different ways," Chadha concluded talking about the importance of open source in the Indic LLM landscape.

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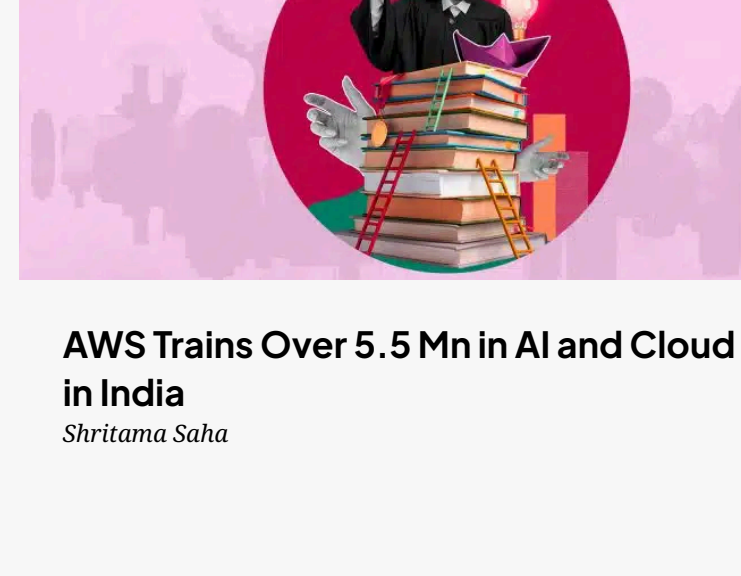
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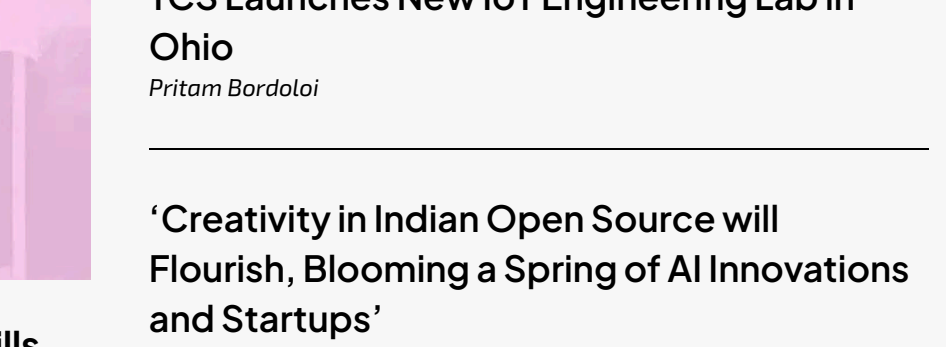


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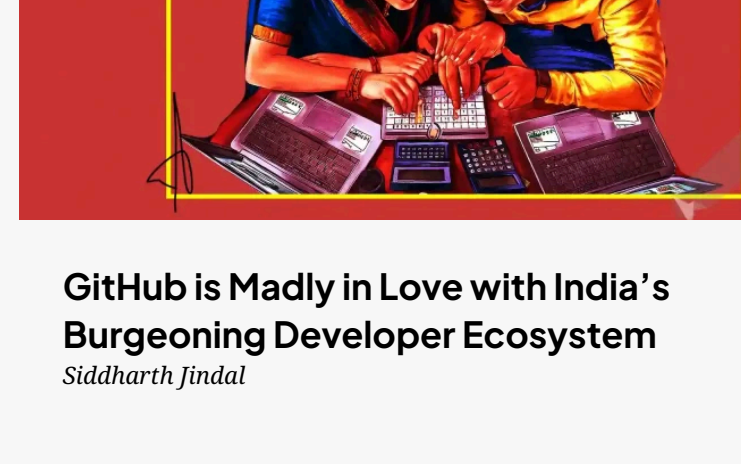


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