

How to become a leader in public health AI

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MPH in International Health & Sustainable Development student Sneha Kanna discusses her AI research with a fellow student at the recent WSPH AI Symposium.

The threat of being left behind is one of the realities of academic pursuit, and it is often tied to a lack of adaptation or learning.

Perhaps never in history has this harsh reality been so starkly obvious as it is now, in the context of artificial intelligence (AI) and adaptive learning.

“It’s like a train passing by,” says [Dr. Samuel Kakraba](#), assistant professor of biostatistics and data science. “You either hop on and move forward, or you stay behind and lose out.”

AI and machine learning are already revolutionizing how quickly academic research and public health data become actionable, compressing processes that once took years into mere weeks—or even days. This unprecedented speed can translate directly into healthier communities, as public health professionals now use AI-enhanced tools to analyze outbreaks, streamline reporting, and improve response readiness with remarkable efficiency.

[Dr. Paul Hutchinson](#), professor of [International Health and Sustainable Development](#), leads a strategic initiative at the [Celia Scott Weatherhead School of Public Health and Tropical Medicine](#) to highlight relevant AI research and to coordinate training, implementation, and collaboration in artificial intelligence, machine learning, and data science.

With a background in economics rather than computer science, Hutchinson brings a more holistic viewpoint to the topic.

“Public health leaders have a responsibility to have a good understanding about AI,” Hutchinson explains, “particularly, as practitioners in the field, but also as people who are training the next generation of students who will be in the field.”

AI provides advantages over traditional tools and methods in that can take a significantly large amount of data and then process it quickly, sometimes delivering new (or better) results.

In public health, that can manifest in many ways. Machine-learning models trained on big data, such as electronic health records, can be used to predict patient health risks from conditions as diverse as cardiac events, onset of diabetes, sepsis, 30-day re-admission, and opioid overdose. In South Africa, door-to-door screening teams have used mobile X-ray vans with AI triage to flag presumptive tuberculosis on the spot. At the population level, AI-enabled epidemic-models are already being used to forecast disease spread and potential epidemics.

Of course, there is a wide range of applications for AI that haven't even been conceived of yet.

Kakraba and his students are advancing AI-powered tools that analyze handwriting patterns to predict early signs of Alzheimer's, and vocal features to improve detection of Parkinson's disease risk. Far from science fiction, these real-world breakthroughs in pattern recognition have demonstrated the potential for AI to surpass traditional diagnostic accuracy—with the prospect of even more transformative applications ahead.

"AI is transforming the very nature of research," Dr. Kakraba explains. "It's essential for students, faculty, and staff to actively engage with these tools and understand their capabilities. What once took years to investigate can now be accomplished in mere seconds with the right AI-enhanced approach."

In addition to leading courses on applied machine learning, artificial intelligence, and big data analytics, Kakraba has championed the integration of AI across research and teaching. This fall, he collaborated with Hutchinson and others to organize Tulane's first day-long symposium on ["Demystifying AI in Public Health,"](#) which brought together students, faculty, and national leaders to highlight cutting-edge applications and foster meaningful collaboration in this transformative field.

The event showcased current research in this area, highlighting how machine learning, natural language processing, and predictive analytics can address critical public health challenges. Notably, the symposium also featured a student poster session, where nearly 20 students presented their ongoing research on AI-driven health solutions.

The hope is that the event becomes an annual showcase for tech-forward ideas, and one of several AI-centric events held on the Tulane campus throughout the calendar year. The Celia Scott Weatherhead School is already collaborating with other Tulane entities such as the Connolly Alexander Institute for Data Science, the Center for Community-Engaged AI, and the Tulane Innovation Institute. Hutchinson credits a culture of fostering development at Tulane as being critical in those efforts.

"I think that what the university has done is not put up barriers, giving people the freedom to explore," Hutchinson said, noting that other universities have prohibited the use of AI at varying junctures.

Such limitations often stem from concerns about cheating and the potential to lose control of proprietary research data. AI's vast energy consumption and the resulting impact on the environment can also make it controversial, while a lack of regulation and safety protocols have drawn concern over the potential for self-harm.

Addressing that latter issue, Kakraba notes, "It's important we are not just training our students on how to use or develop these AI applications, but also how to develop safer AI applications."

More mundane, though no less important, are worries over the accuracy in output, with common instances of "hallucinations" and other errors in AI results. But society didn't turn against automobiles amidst motor vehicle crashes, and it seems unlikely that it will abandon AI.

"We didn't have seatbelt laws for a long time, and now we have them, and that's made things safer, though not perfect either," Hutchinson says. "That may be what we're moving towards: 'What are the seatbelts for AI that reduce risks to a level that we can live with?'"

"Instead of us thinking about the disadvantages or the harm that it can do," Kakraba echoes, "I think we should focus on the good we can do and how we can make it better and safer."

Kakraba is confident that the Weatherhead School—and Tulane as a whole—will remain at the forefront of innovation.

"We are the first school of public health in the United States, and that is a legacy we intend to uphold in every field we engage with, including how AI is revolutionizing public health," he says.

"We have everything it takes to lead and shape the narrative."

[Follow the link](#) to find out more about our school's strategic initiatives!