PATH TO BLAZING AI TRAIL

Indiana Making Its Move

By Anthony Schoettle

While artificial intelligence (AI) poses some risk to eliminating jobs and increasing unemployment, there seems to be a much greater upside for companies and communities positioning themselves to profit from the emergence of this transformative technology.

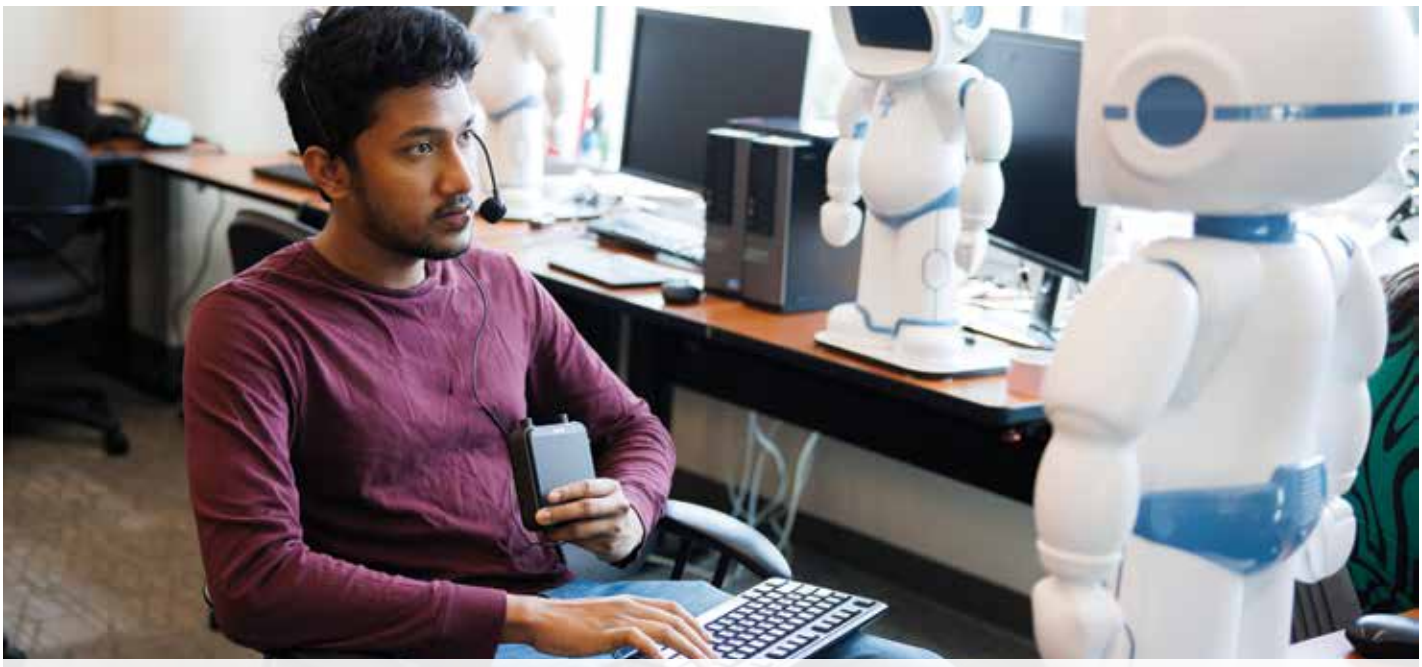
According to those in the know, the Hoosier state appears to be in a strong position to be one of the leading benefactors of the onset of the AI era.

In Indiana, there are already companies, large and small, engaging with fast-emerging AI technologies. For instance, Eli Lilly has become a leader in the pharmaceutical sector using AI in research and development, drug making and other areas. DemandJump, an Indianapolis startup and scaleup that was acquired by DemandScience in April, is a pioneer in using AI for behavior insights and marketing strategies. Indianapolis-based Arrive AI is a trailblazer in using the technology for product delivery.

Columbus-based engine and power systems manufacturer Cummins Inc. is using AI for predictive maintenance and supply chain management among other things, and Anthem Inc. is leveraging AI for customer service and healthcare optimization. Salesforce, with a significant presence in Indianapolis, is a major player in AI through its Einstein analytics platform. Beck's Hybrids, based in Hamilton County, utilizes AI and machine learning in several ways to enhance agricultural practices and help farmers succeed, including through optimizing seed selection and breeding.

It's easy to think of AI in theoretical terms, but it's the real-world applications of AI that are making Indiana a leader in the technology, says Lucy Flesch, dean of the College of Science at Purdue University.

"As a state, we have a lot of technical innovation and are using AI in a lot of spaces," Flesch emphasizes. "You can see it in product design at companies like Caterpillar; they're using AI to advance innovations at Eli Lilly. At Purdue, we're the home of the first computer science department in the nation, and we have a huge focus on AI that interacts with the physical world. So we think a lot about robotics and human-computer interaction, advanced chemistry methods to manufacture



Indiana is fortunate to have three research universities working on cutting-edge uses of AI, including work at the robot lab at Indiana University's Luddy Artificial Intelligence Center.

The Central Indiana Corporate Partnership hosts the annual AnalytiXIN Summit, where Indiana's academic talent and industry leaders come together to tackle real-world AI and data challenges.

pharmaceuticals and how that applies to quantum computing, which I think is the other major (tech) innovation."

"I think this state is very forward-thinking in the AI space because we have a lot of industries that realize this can be a very important tool."

Three Indiana business sectors – logistics, agriculture and advanced manufacturing – are leading the way not only in the state but the region and nationally with respect to using AI-driven "smart systems to optimize production and drive efficiencies," Flesch adds.

Indiana and Purdue universities along with Notre Dame have emerged as leading academic institutions researching and developing new and creative uses for AI. IU and Purdue also have formed partnerships with private sector entities – including microelectronics giant Taiwan Semiconductor Manufacturing Co. (TSMC) – to push AI forward.

State government officials as well as those from municipalities across Indiana also are positioning themselves to take full advantage of AI.

Unique initiatives

Indiana is the only state in the nation to have a management performance hub (MPH), an organization dedicated to researching and deploying advanced analytics and AI, within state government. MPH, run by noted tech expert Pete Miller, is focused on driving improved efficiencies and productivity within the state and to release state data where it helps the public sector – including organizations serving the public but outside the state government umbrella, such as Goodwill Industries.

The Central Indiana Corporate Partnership (CICP) formed a special initiative coined AnalytixIN, which is aimed at helping Indiana be ready to take advantage of AI.

"When I think about the transformative technology that AI is, our challenge and our mission is to be able to help prepare Indiana sectors to be ready for it," explains Darshan Shah, executive vice president of data and AnalytiXIN for the CICP.

Part of that mission, expounds Shah, involves working closely with the state's colleges and universities to make sure they have the faculty needed not only in advanced analytics and AI research but also to train students who will become the future backbone of the state's AI-driven business sector and economy.

"We're also building several different types of data assets that are unique to Indiana to help raise the bar when it comes to building the credibility of Indiana related to the work that we're doing in this space," Shah relays.

While AI has unleashed an explosion of opportunities for businesses, municipalities and other organizations, it's also created an arms race among U.S. states to compete not only with one another for high-tech and other business growth but also to joust globally with regions trying to become AI epicenters.

There are several public-private partnerships that have formed to position Indiana as an AI leader. One is from TechPoint, a statewide organization focused on growing the innovation economy. The group recently formed the Indiana AI Innovation Network to bring together stakeholders from across industries and verticals to provide those working in this space with the support and network they need to keep Indiana at the forefront of the technology. Within six months of forming, the Network already had more than 300 members.

The AnalytiXIN Summit (from the Indianapolis-based collaborative, AnalytiXIN) was launched in the summer of 2024, and in its second edition this August drew more than 80 faculty members from major Indiana universities and 25 Hoosier companies to participate in solving business problems with AI.

More yet to do

While Indiana is in good position, with one of the stronger Midwest tech sectors, growing biosciences field and stalwart advanced manufacturing base – all supported by three major research universities – sources within the state, and some on the outside, still think the state has more to do to maximize the benefits AI can bring.

Brainly, an AI education technology company and research group headquartered in New York, released a study in July showing just what Indiana needs to do to capitalize on the AI revolution.

Among the key findings in Brainly's study – which was based on the most recent data from the Census Bureau, Bureau of Labor Statistics and the National Center for Education Statistics – Indiana scored poorly for businesses' AI adoption rate (37th nationally) and federal funding for small businesses to pursue tech innovation relative to its economic size ($79 per $1 million GDP, 36th nationally). On the other hand, it ranked high on high school computer science enrollment (6.6%, No. 16). Overall, Brainly concluded that Indiana ranked in the bottom half of overall AI preparedness among the 50 U.S. states.

Adam H. Berry, Indiana Chamber vice president of economic development and technology, has a somewhat different perspective.

"With this sort of technological revolution … it's all relatively speaking,

nascent," he contends. "It's difficult to judge Indiana relative to other states. But I will say this: Indiana is doing the right things in terms of employers working with higher education institutions, and I see everyone doing as much as they can to take full advantage of AI. I can tell you firsthand, state lawmakers in the General Assembly care about – and are addressing – these issues."

Berry points out that in 2024, state lawmakers created the AI Task Force to study how the state is using AI to be more customer friendly. "The General Assembly is also looking at employer demand and what is being done to train the workforce," he notes.

A recent Indiana Chamber Foundation report – with analysis done by Accenture, a global professional services company – found that already 40% of the state's manufacturers are using AI. While Berry says that number could be higher, he stresses the improvement, "That's coming from four years ago when we had virtually zero adoption of AI in manufacturing."

"There's certainly an acknowledgment in this state that AI is beneficial," Berry adds. "And there's an understanding that manufacturing in particular is an industry where if you don't incorporate AI, you're going to be left behind. I'm confident that 40% adoption rate will increase in the near future."

Wanted: training boost

Perhaps most troubling for Indiana is that the Accenture study showed only about 1% of Indiana workers have AI skills. That number is too low, Berry admits, but he points out the study also found 94% of the Hoosier workforce is willing to be trained in AI usage.

"Clearly there's an appetite for learning," he exclaims. "The question is, whose responsibility is it to train workers? I could argue that it's the responsibility of the employers."

The state has multiple grants available to upskill workers in technology and AI. "We have to invest in and train our workers for the jobs of today and tomorrow to fully realize the potential economic growth that AI could ignite," Berry says. "I see a strong possibility for a public-private partnership in this area."

Prateek Shrivastava, advanced analytics manager and AI advisor for Cummins, says while training workers in AI is a serious investment, there's a solid payoff.

"One of the biggest challenges in upskilling the workforce for an AI-centric future is addressing the knowledge gap," he notes. "Many employees may not have a strong background in data science or technology, making it necessary to provide foundational training before delving into advanced concepts. This process requires time, resources and a tailored approach to accommodate varying levels of technical expertise."

The payoff for Cummins in being a leader in AI adoption, however, is undeniable.

"AI is transforming the supply chain industry in profound ways, redefining how businesses operate, make decisions and deliver value," Shrivastava states.

"In the supply chain, AI has introduced predictive analytics, automated decision-making and enhanced visibility across global operations. At Cummins, we've embraced AI to optimize inventory management, forecast demand more accurately and improve supplier relationships. This disruption is overwhelmingly positive for our bottom line. By leveraging AI, we've achieved greater efficiency, reduced costs and minimized risks."

On the cusp

Sagar Samtani, director of the Data Science and Artificial Intelligence Lab (DSAIL)

at Indiana University, thinks Indiana is not only well positioned to take advantage of the AI movement, but leaders here are laying some of the groundwork to facilitate growth through AI nationally.

He points to the CHIPS Act – a piece of federal legislation aimed at bringing microchip manufacturing to the U.S. – co-authored by Indiana Senator Todd Young, and the work done by IU and Purdue with blue chip tech companies including TSMC, Samsung, Intel and Microsoft among others.

"Indiana has played an important role in being able to help facilitate key elements of the AI supply chain," Samtani notes.

He adds that Indiana's challenges are not unique.

"I think a lot of states, for example, are facing a talent acquisition challenge, even the states that have a lot of AI talent in them," Samtani stresses. "But where do you find the right type of AI talent to be able to perform certain types of tasks or be able to have a robust ecosystem of AI development? Right now, a lot of that is concentrated in Silicon Valley. But I do think Indiana is taking the right steps to close that gap and become a real AI leader."

RESOURCES: Adam H. Berry, Indiana Chamber of Commerce, at www.indianachamber.com | Lucy Flesch, Purdue University, at www.purdue.edu | Sagar Samtani, Indiana University, www.iu.edu | Darshan Shah, Central Indiana Corporate Partnership, at www.cicpindiana.com | Prateek Shrivastava, Cummins Inc., at www.cummins.com