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UB elaborates on Empire AI in roundtable with state reps

By Janet Gramza

Yubie, a four-legged robot made by Boston Dynamics, navigates around the University at Buffalo campus with

operator Yashom Dighe, a first year student in the robotics masters program.

A "DeepFake-o-Meter" that the public can use to detect AI-generated images and disinformation. An online teaching tool to help older

adults avoid phone scams. In-road charging systems that can recharge the electric vehicles that drive on them.

Those are just a few of the innovations that the University at Buffalo is working on in its mission to use AI for the public good.

SUNY Chancellor John B. King Jr., right, and SUNY trustee Eunice Lewin listen during a roundtable presentation and discussion on artificial intelligence at the University at Buffalo National AI Center for Exceptional Education at the University at Buffalo North campus in Amherst on Wednesday. Libby March/Buffalo News

UB and SUNY Chancellor John B. King were at UB's National AI Center for Exceptional Education Wednesday to share UB AI research with state legislators who launched Gov. Kathy Hochul's Empire AI consortium by approving $275 million in funding for it in this year's

state budget, and lobbied for Hochul's vision to make UB the new think-tank's home base.

Hochul also secured pledges of $125 million in private funding to create the Empire AI consortium of seven founding partners, which includes the SUNY and CUNY systems, New York, Columbia and Cornell universities, Rensselaer Polytechnic Institute and the Simons Foundation.

Venu Govindaraju addresses a roundtable presentation and discussion on AI at the University at Buffalo National AI Center for Exceptional Education at the North Campus in Amherst on Wednesday.
Libby March, Buffalo News

Their plan is to build an advanced AI supercomputing center at UB where public and private research institutions can share and collaborate on best practices for safe and responsible AI using powerful computer infrastructure that has been mostly controlled by Big Tech, King said.

"The computer power that's needed to harness AI is expensive and difficult to maintain, and it's largely in the hands of the big IT companies, with the threat of leaving the public out of the future of AI," King said. "That could be a disaster. The Empire AI research center for the public good is about to change the fabric of our lives and make New York a leader in AI research and development."

King, UB Vice President for Research Venu Govindaraju and other UB researchers presented examples of research for using AI for social good, including developing technology that addresses food insecurity, the shortage of speech-language pathologists in K-12 education, information integrity and deepfakes and the need for improved stroke treatment and medical imaging.

Govindaraju, who developed an early AI application that the U.S. Post Office uses for handwriting recognition, said AI is already, by far, outperforming human ability in language translation, content generation, coding, face recognition and reading comprehension. Among the research grants UB has received for AI are:

- $12 million from the National Science Foundation, industry and foundations to develop transportation infrastructure, "including ways to charge car batteries through driving on the roads," Govinadaraju said.
- $15 million in funding from NSF, the Department of Defense, the EPA and others to devise ways to use AI for materials discovery and answer the question of, "Which of the millions of hypothetical materials are stable?" Govinafaraju said.

- $20 million from various federal agencies to work on methods for making robots safer and more trustworthy to engage in autonomous behavior.

Siwei Lyu speaks during a roundtable presentation and discussion on AI at the University at Buffalo National AI Center for Exceptional Education at the University at Buffalo North campus in Amherst, July 17, 2024. (Libby March/Buffalo News)
Libby March/Buffalo News

UB's Center for Information Integrity is tacking ways to fight misinformation on social media, where UB professor Siwei Lyu said most deepfakes do their damage.

Lyu said teenage girls and older adults are the biggest victims of internet fakes that lure them in with the intent to do harm.

"What will be the solution to combatting fake AI?" he asked. "AI. We will use good AI to combat bad AI."

UB has developed a tool it calls the **DeepFake-o-Meter** that is open for people to use to detect whether a photo, video or document is real, Lyu said. UB also runs a **Media Forensic Lab** to help media check whether content is fake before sharing it.

Govindaraju said more than 200 UB researchers and their students are working on AI-related solutions to social problems, and Empire AI will encourage more students and researchers to go into AI in their future careers.

King said that as of Fall 2023, SUNY had more than 18,000 students enrolled in AI and AI-related programs across its 64 campuses.