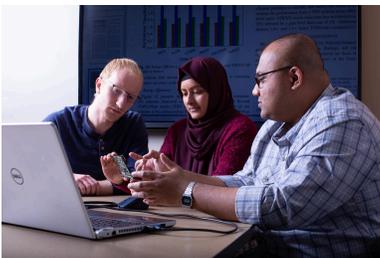


Doctoral Candidate Creates Technique to Improve AI Energy Efficiency

03/29/2023

An engineering doctoral student is shedding light on the reliability of today's modern-day artificial intelligence with an issue most do not think about: energy efficiency.



Noel Daniel Gundi was the lead researcher on a paper focuses on improving the energy efficiency of artificial intelligence software.

Noel Daniel Gundi, who will defend his dissertation later in the semester, was the lead collaborator on research addressing reliability and faults in artificial intelligence. The research paper will be presented and published at the Design Automation Conference in July. It focuses on the computer chip used for artificial intelligence software, such as Google's search engines. When at low power, the chip can malfunction and cause issues in the results of calculations. Gundi's technique, called STRIVE, can detect and fix the errors in a way that uses less energy, making the computer chip faster and more efficient.

DAC is sponsored by the Institute of Electrical and Electronics Engineers and the Association for Computing Machinery. The conference is a prestigious publication venue in the electrical and computer engineering field, and the selection process for publication has a 23 percent acceptance rate.

"I feel very thankful to have been granted publication for such a competitive conference," Gundi said. "I look forward to the conference and to continue working on my research."



In addition to Gundi, authors of the paper included Zinnia Muntaha Mowri, Andrew Chamberlin, Koushik Chakraborty and Sanghamitra Roy.

Gundi, who is originally from India, has spent much of his doctorate researching and learning about AI, whether it be updating current architecture of the computer chip, machine learning or energy consumption of AI software. Sanghamitra Roy has served as his mentor for the greater part of his studies.

Other authors on the paper included Zinnia Muntaha Mowri, Andrew Chamberlin, Koushik Chakraborty and Roy. Chakraborty and Roy are professors in the ECE department who also oversee the Bridge Lab. Research focuses on creating bridges between computer architecture and physical design, energy efficacy, design automation, network-on-chip design and 3D integrated circuits.

"Noel is a fantastic student and I have enjoyed watching him grow," said Roy. "I can't wait to see what else he accomplishes in the future."

More information about the Bridge Lab and its publications can be found at [this website](#).

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Writer: Sydney Dahle, sydney.dahle@usu.edu, 435-797-7512

Contact: Noel Daniel Gundi, noeldanielm@gmail.com