Small AI, Big Impact on Chip Design

MIT’s SLIC method slashes costs and boosts security in analog circuit innovation.

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THE DATA

Several thousand times smaller

Model Size Efficiency

The SLIC-trained small language model uses a fraction of the parameters of frontier models.

While leading generative AI models for chip design rely on trillions of parameters and cloud infrastructure, MIT’s SLIC method trains a model with just a few billion parameters—making it thousands of times smaller. This drastically reduces computational demands and enables deployment on local devices like laptops.

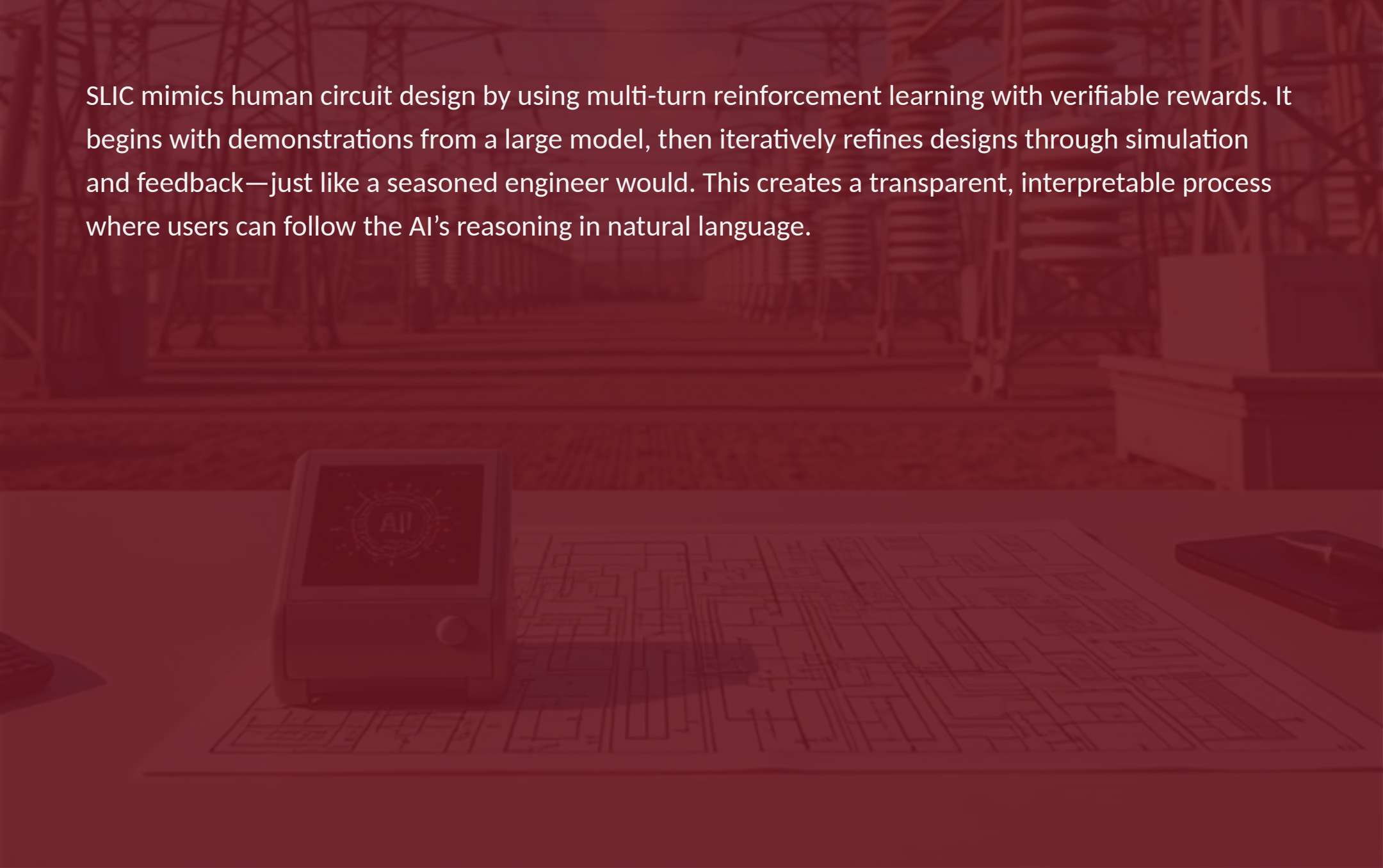


Source: MIT News · Published November 23, 2026
https://news.mit.edu/2026/ai-driven-technique-could-help-engineers-design-analog-chips-faster-and-less-expensive-1123

01

AI That Learns Like an Engineer

SLIC mimics human circuit design by using multi-turn reinforcement learning with verifiable rewards. It begins with demonstrations from a large model, then iteratively refines designs through simulation and feedback—just like a seasoned engineer would. This creates a transparent, interpretable process where users can follow the AI's reasoning in natural language.





02

Privacy-First AI for Energy Systems

Because SLIC trains and runs locally, it eliminates the risk of exposing proprietary semiconductor data to cloud providers. This is critical for energy-sector applications like power management chips, RF circuits in smart grids, and industrial sensor systems where design blueprints are trade secrets. The model's universality means it can be adapted across energy tech without vendor lock-in.

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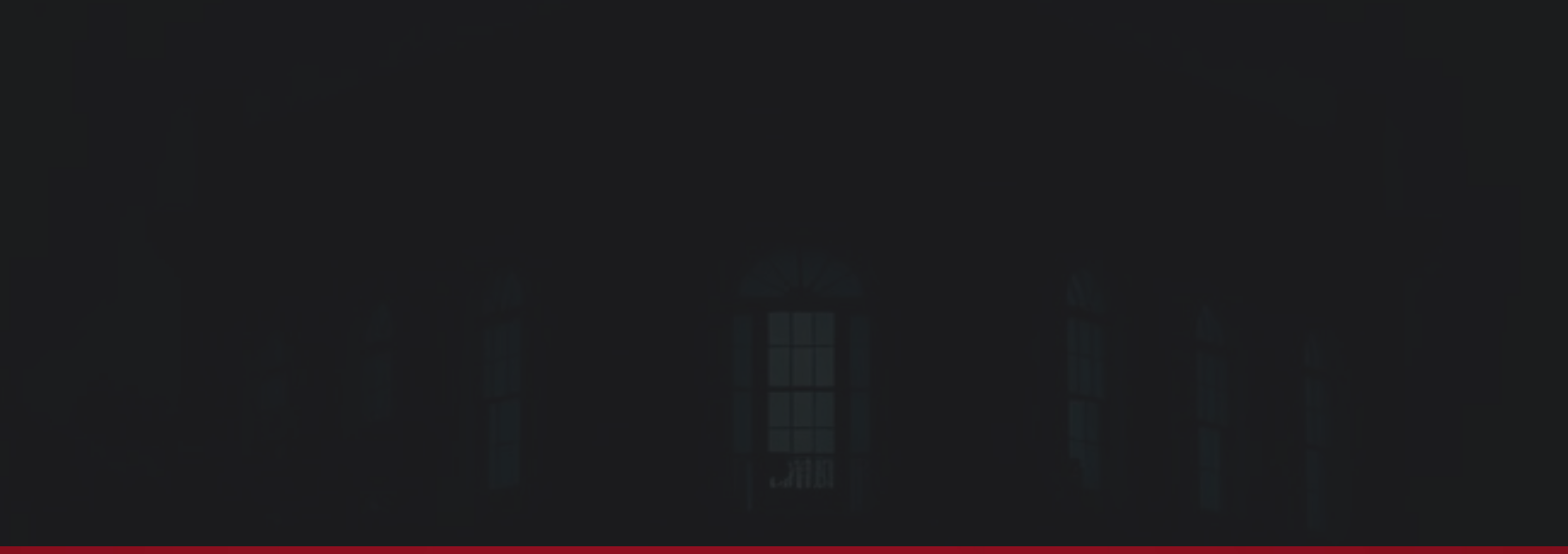

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