Apple will use AI to revolutionize chip design

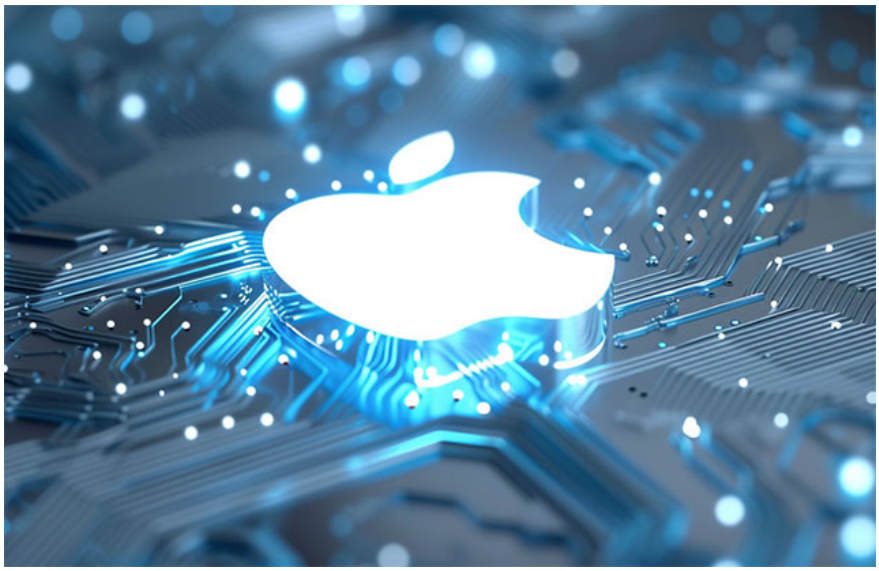
Despite being considered lagging behind in the AI ??race compared to OpenAI, Microsoft or Google, Apple is still trying to take advantage of this technology to speed up the design of custom microchips - a move that could strengthen its position in the semiconductor industry.

Despite being considered lagging behind in the AI ??race compared to OpenAI, Microsoft, and Google, Apple is still trying to leverage this technology to accelerate the design of custom microchips - a move that could strengthen its position in the semiconductor industry. Apple's in-house silicon platform has been a huge success when equipped with Mac lines launched in the past few years, now is the right time for the company to aim to apply generative AI technology to upgrade chip architecture, promising to improve performance and design productivity.

Focus Shift Strategy

In a recent keynote, Apple Hardware Chief Johny Srouji revealed plans to apply AI to core chip design instead of focusing solely on user features:

'Generative AI has great potential to complete larger design volumes in less time, creating a quantum leap in productivity.' Srouji also mentioned collaborations with electronic design automation (EDA) firms like Cadence and Synopsys to overcome technical challenges.



AI Competitive Pressure

The announcement comes as Apple faces a barrage of criticism over its AI capabilities following a series of failures:

1. Delay personalized Siri experience
2. No groundbreaking AI features integrated in iOS 26
3. AI topic left open at WWDC 2025 despite introducing new Liquid Glass design

Srouji emphasized Apple's holistic approach to bringing AI to chip development, recalling the journey from the A4 chip to the current Apple Silicon line:
"Moving the Mac to Apple Silicon was a huge gamble. There was no fallback plan or hybrid solution—we went all in, including a massive software effort." The success of custom silicon revolutionized performance, power efficiency, thermal management, and software compatibility.

Integrating generative AI into chip design promises the following advantages:

1. Accelerate design cycles: Shorten transistor layout optimization time
2. Performance Optimization: AI Predicts Chip Architecture for Higher Processing Throughput
3. Reducing Physical Errors: Algorithms for Early Design Flaw Detection
4. Cost Savings: Cut down on engineering resources for repetitive tasks

Generative AI trong thi?t k? chip có th? mô ph?ng hàng t? bi?n th? b? trí transistor trong vài giây - quá trình mà con ng??i c?n hàng tháng. Công ngh? này ??c bi?t h?u ích v?i chip 3nm/2nm khi ?? ph?c t?p t?ng theo c?p s? nhân.
Chi?n l??c c?a Apple ph?n ánh xu h??ng *"AI-first silicon"* : dùng AI thi?t k? chip ?? t?o ra chip m?nh h?n ph?c v? AI. N?u thành công, ?ây s? là vòng l?p ??y nhanh l?i th? c?nh tranh. Tuy nhiên, thách th?c n?m ? vi?c ??m b?o thi?t k? do AI t?o ra không vi ph?m b?ng sáng ch? và t?i ?u cho s?n xu?t hàng lo?t. Thành b?i c?a k? ho?ch này có th? ??nh hình c?c di?n cu?c ?ua AI gi?a Apple và các gã kh?ng l? công ngh?.