



Singapore quantum spinout looks to AI integration

Business news | December 30, 2024

By Nick Flaherty

AI QUANTUM

A spinout in Singapore is looking to raise funds for AI integration of its quantum controller technology.

AQSolotl uses technology developed at Nanyang Technological University, Singapore (NTU Singapore) and National University of Singapore (NUS) for a real time controller that acts as a translator between conventional computing systems and quantum computers.

The company is now raising funds to develop an integration with AI servers. As part of the commercialisation process, the intellectual property for the technology has been transferred to AQSolotl, with both NTU and NUS taking equity shares in the company, while retaining rights for academic, research, and non-commercial use.

Developed by university researchers affiliated with Singapore's Centre for Quantum Technologies (CQT), CHRONOS-Q enables users to control quantum computers easily and efficiently using their laptops and desktop computers. It can determine qubit states in less than 14ns, enabling real-time feedback as quantum computers scale in performance.

- [World's coldest ARM processor](#)
- [Rigetti launches 84bit qubit system](#)

The proprietary quantum controller technology, developed and refined over three years, is currently being piloted at CQT as part of the hardware setup for the National Quantum Computing Hub and NTU's Nanyang Quantum Hub. AQSolotl's founders include NTU Professor Rainer Dumke, a Principal Investigator at CQT, and Patrick Bore, a former Research Associate from CQT at NUS, who is now the CEO.

"Conventional computer systems form the backbone of modern society, powering banking systems, databases, and data centres. Today, we are

witnessing AI revolutionise these systems, transforming how we process and utilise data. Quantum computing, however, promises an even greater impact,” said Dumke.

“Future systems will solve complex mathematical and physics problems previously deemed unsolvable, such as factorising large prime numbers for advanced cryptography and modelling quantum physics. These quantum advancements could also enable us to address some of humanity’s greatest challenges, including climate change and new emergent diseases, for instance, by accelerating the development of renewable energy systems and precision medicine.”

“How our efficient technology can contribute, is to accelerate these developments and bring quantum computing to more spaces at cost-effective prices, so that quantum computing can become mainstream and accessible for most countries and not just for wealthy nations.”

“Our CHRONOS-Q system demonstrates that quantum controllers can be both high-performing and cost-effective, paving the way for scalable applications across industries. We look forward to bringing real-world solutions to companies around the world, helping to advance quantum AI development and lower the barriers to entry for quantum computing,” said Patrick Bore, CEO of AQSolutl.