Neuroplasticity demonstrated in a Zero Logic Quantum Neural Network

RESEARCH · SEPTEMBER 2015

DOI: 10.13140/RG.2.1.4956.5927

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Keywords: machine learning, AI, quantum algorithms, compression, neuroplasticity

When in early 2006 Visicom Scientific researchers embarked on a mission to investigate harnessing the potential of quantum algorithms to develop new forms of data storage, little could be known of the path that would lead down. Even today a reliable universal Quantum Computer still eludes us (although significant progress has been made in this area). With useable Quantum Computing still unavailable, the reasons for researching and advancing the field of quantum algorithms may at first appear a little unclear. Following the creation of the Toridion Project in 2014, 9 years of R+D was laid down in code. Today 1 year on, the writing is on the wall. “Whilst Quantum Computers may not be readily available, quantum algorithms can provide gains over classical simulations to solve real world problems – today.”

A recent development at Visicom Scientific is the creation of a primitive but highly capable Zero Logic Quantum Probabilistic Neural Network. Or ZLQNN for short, and in recent experiments (highlighted below), it was shown how information stored in a probabilistic form of layered frequencies could be shown to not only store information with 100% accuracy but also self organise, self repair and self create useful information without the use of logic or dedicated software to direct it.

The database developed was shown to posses “neuroplastic” ability, self generated “imagination” and the ability to both store information and self create the mechanism to learn and adapt within the storage structures itself.

Neuroplasticity is the process that is surmised to take place when the brain appears to reconstruct new neural pathways in order to relearn existing skills that may be lost due to trauma. There are many other examples, however for the purposes of this example it is viewed in that sense.

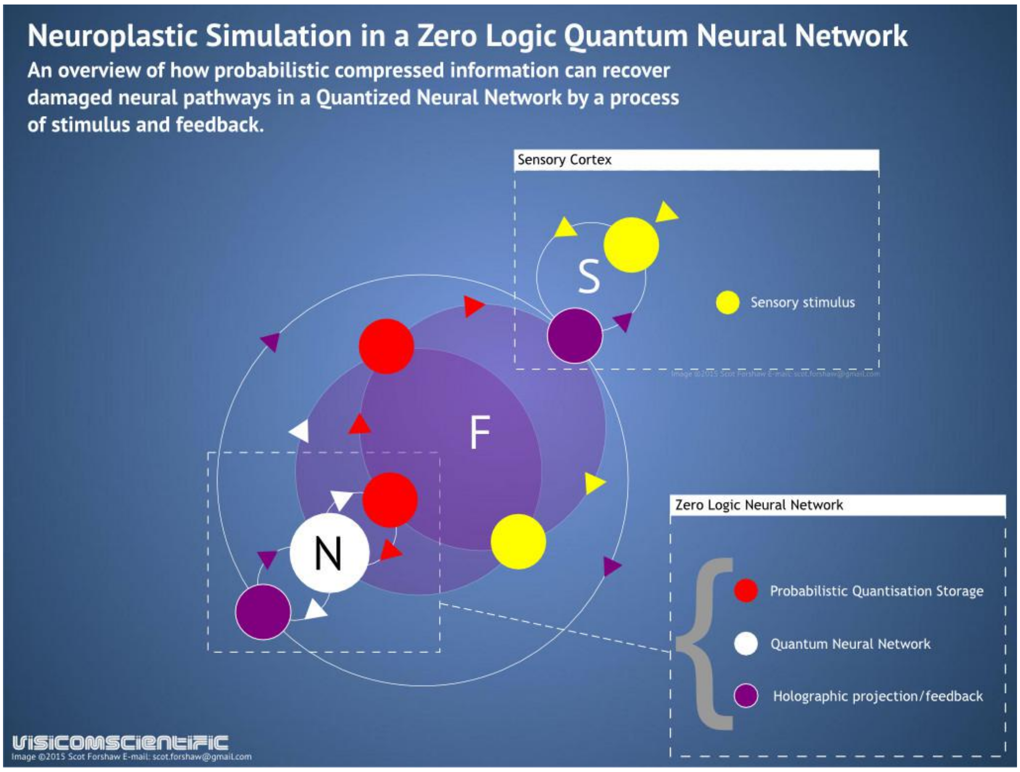

Fig 1.0 above shows the cycle of information flow from sensory cortex to the neural network along with the spontaneous creation of new “conceptual imagination” being fed back to the sensory sub processor where it is re-committed to the neural network to form new neural pathways that are able to both recover and repair lost information and create new concepts in the form of a “synthesised imagination”

Zero Logic refers to a system that has no inherent program designed to process data of any specific type. Or more specifically, “the storage mechanism is both the storage and retrieval system, a system that writes its own software to make calculations as part of the neural network created”

In ZLQNN there is no “if I see this then do that” arrangement. A storage cell is activated by harmonic relationships to produce new information that resonates with other areas of the global storage system. The “vibrations” together unlock new information in data stored in quantised “entangled information”

Figure 1.0 shows the flow of information through a ZLQNN system from initial sensory experience to storage, from storage to conceptual imagination and subsequently re-committal to memory of both continuous sensory data and newly created imagination.

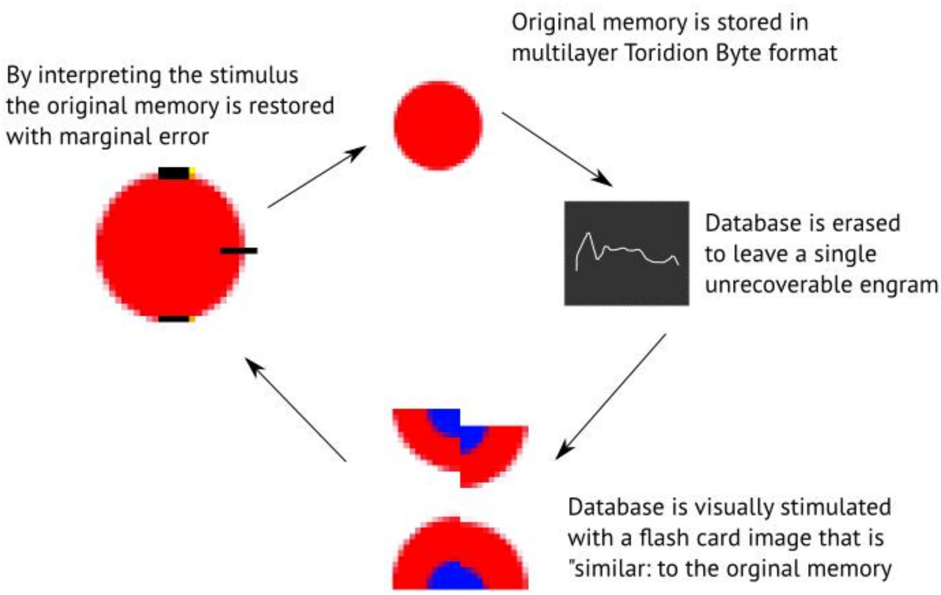

Fig 2.0 simplified cycle of data flow through the ZLQNN as System B is shown new information it is able to increasingly recall lost information with high accuracy at high speed through a process of simulated quantum annealing to accelerate the process.

Fig 2.0 above is a condensed overview of how a ZLQNN was able to recover lost memory through a process of visual therapy.

First, the system was asked to store a 3k red circle to its storage area by presenting the image to the systems sensory cortex area. This produces both a storage container and a related neural network that under normal conditions allows the system to recall the memory of the image with 100% accuracy as if loading a file from disk.

Next the entire neural network was erased to leave only a single 16 byte engram of the red circle. At this stage the system is effectively “brain damaged” and unable to access or understand the engram. It is for all intent and purpose “lost”

Now the system is exposed to a series of flashcard images (in fig 2.0 the red and blue quartered circles). To the viewer the flashcard is obviously 4 quarters of a circle mixed up.. You know that (but how?).

Upon seeing the flashcard, the ZLQNN attempts to simultaneously remember the flashcard image and recall the image of the lost “engram”. By a feedback mechanism several probabilistic images are “imagined” and also fed back to the sensory cortex. These images are in turn committed to memory along with new neural pathways that describe both the flashcard and the imagined images.

As the cycle continues, the new neural pathways allow the original engram to be recalled with near 100% accuracy.

In addition to the recovery of the original image, the ZLQNN has also created a huge number of new “entangled” neural pathways that both solve existing and problems yet to be experienced.

The system demonstrates both simulated “neuroplasticity” and further that the fundamental act of making mistakes in self programming of a machine learning system is both a driver to finding solutions to known unknowns and developing neural pathways that can form “new opinions” that explore “unknown unknowns”