First post

written by 110 on Functor Network
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Hello, here is my first post on that blog. I intend to show here the things I'm interested in, my skills and my ideas, mostly to convey properly what is in my head. I have from times to times some ideas, and I tend to fall in love with them a bit too much. Most of the time, they are almost good, but often not good eough. My studies were pretty diverse, but nowadays only one field is really useful, programming, so that blog will revolve mostly around algorithms and cryptography.

There is a section artificial intelligence, and quantum computing. I know nothing about them and I want to show here my step by step discovery in those fields. For quantum computing, my main goal is to implement quantum algorithms (on a classical machine) and see what is the state of the art of classical algorithms solving the same problems. Does a quantum computer really bring anything to the table? Does its advantage come from the analog part of the wavefunction or really from entanglement?

Some stuff will be discussed, like entanglement. What are the solution to picture it, or to emulate it. For example, a local electric field $E = \cos(k_1 x)\cos(k_2 x) + \sin(k_1 x)\sin(k_2 x) = cos(k_1 x - k_2 x)$ could be written $E = \cos(k_1 x)\cos(k_1 y) + \sin(k_1 x)\sin(k_1 y)$ if we would have defined $y = \frac{k_2 x}{k_1}$.

What is a difference in the wave vector at the same coordinate could be seen somehow as the same wave vector on different coordinates.

So the question arising is, is non locality of any usefulness?

And Since it can be modeled by retrocausality or superdeterminism, coud we not emulate those properties to make better algorithms?

About machine learning, I want to learn the tools that people use commonly like pytorch and apply it to pictures, videos whatever.

I also have few naive ideas in mind concerning AI, that will likely vanish once I know more about it. One is to create an LLM using a dictionary where all words are defined by other words in the dictionnary, the other is to see if objects can be labelled in sets that are not only vector spaces, to create relations between objects that are more complex than what is possible with linear algebra.

The blog should be structured that way:

- Classical algorithms (mostly for cryptography)
- Cryptanalysis
- Linear code

- Quantum algorithms
- Number theory (mostly for cryptography, so low level number theory)
- Physics
- Tinked Mathematics
- Artificial intelligence
- Weird or lame ideas around those topics