

AN INTRODUCTION TO THE CLASS OF THE UNIVERSAL GOALS.

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ABSTRACT. An Introduction to The Class of The Universal Goals: an essay to define mathematically a goal with a universal approach based on few general properties.

A task (the successive display outputs of a quantum algorithm) belongs to the class of the universal goals if and only if:

- 1- The task can not end in an infinite loop.
- 2- The task can not end in a finite time.
- 3- It always exists an action increasing the progression of the task.
- 4- For every action A and B increasing differently the task progression, we are able to know which action gives the largest increase for the task progression.
- 5- An action is finding a faster or a more memory-efficient quantum algorithm displaying the same successive outputs by using the intelligence and the mathematical logic, or increasing the power computation, or increasing the speed computation, or increasing the memory, or increasing the intelligence power with respect to the logic calculus or increasing the intelligence speed with respect to the logic calculus, or anything else necessary for the previously mentioned actions.

A very basic example of an universal goal is: calculating as much as we can the first digits of the real number π in ascending order.

In fact, every task in the class of the universal goals may imply the progression maximization of the scientific knowledge, the technologies and the intelligence over an arbitrary long time (for instance, about 500 millions years for the practical case of the earth).

The rate of progression between scientific knowledge, technologies and intelligence may depend on the specific task we have fixed in the class of the universal goals.

Of course, the progression of scientific knowledge, technologies and intelligence may require the progression of other skills as well (the genetics or the communications or the mechanical engineering or the electrical engineering or the medicine or etc...).

More "interesting" than calculating the first digits of the real number π , we may find some tasks in the class of the universal goals which enumerate all the sequents and their possible calculus at the first order logic.

We may also find more "interesting" tasks in the class of the universal goals which enumerate some set of second order logic statements and their possible sequents at the second order logic.

We may also find more "interesting" tasks beyond the second order logic as well.