APRIL 4 2021 BAYESIAN ANALYSIS PROJECT FOR THYSELF INC.

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1. Thyself Scientific Focus

We have discovered the virtues of using Generalized Hyperbolic Distributions (GHD) for distribution of probabilities of various interesting metrics for Human Nature. Thyself Inc. benefits if we have the following mathematical setting.

We assume that $\mathcal{D}$ is a high dimensional GHD on $\mathcal{R}^N$ that is for the entire Human Race and assume that we have it calibrated. Given any actual new person, we can measure some $v_0 \in \mathbf{R}^m \subset \mathbf{R}^N$. Then using Bayesian inference we obtain distributions for all variables in the orthogonal complement $\mathbf{R}^{N-m}$ and suddenly we have powerful inferences that we can make about the person and then we can use these new distributions, the conditional distribution, to provide services of various sorts that are specific to the person.

2. New Ideas Here

The new ideas here are that we can use GHD for analytic treatment for Bayesian posterior and conditional analysis by taking advantage of special mathematical properties of GHD. We want to take advantage of our rough discovery that GHD does fit variables quite adequately. Then we can hope for fast implementations of Bayesian posterior and conditional analysis that is not combinatorial but analytic.

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Analytic inferences are quite fast compared to combinatorial methods but they require some time and effort in research and development.

3. How Is This Progress for Thyself Inc.?

From the very beginning Thyself Inc. was focused on ideas of serving 7.8 billion with self-understanding. These new ideas based on empirical discoveries tell us the analytical fits of measured data justifies focus on Bayesian inference with analytical sophistication from GHD theory. Before we had done some coding infrastructure with choice of MongoDB and Meteor which vastly reduced the effort for a large flexible class of services. Our current advance allows us to take deeper steps in the actual science for Human Nature that will allow us to produce some analytic efficiency in probabilistic inferences that will allow us for example to limit distributions of psychological variables of interest given some information. Bayesian integration from a prior distribution that is known we expect to give us an enormous advantage over ad hoc methods. I am experienced in Finance quant, so I am quite familiar with the difference in efficiency when analytical methods are justified. These might make the difference between linear versus exponential complexity algorithms.

Another aspect that becomes quite clear is that we will definitely face continuous distributions, which, for good or ill, have different methods for analysis than discrete distributions.