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The Rate of Randomness Extraction

This paper investigates the extraction rate for continuous functions F on the Cantor space 2^N. This measures the relative amount of input from X needed to determine a given length of the output $Y = F(X)$. In particular, we look at the extraction rates for the computing randoms using the Levin-Kautz and other methods. We examine the average extraction rates for total and almost total computable functionals F, as well as the extraction rates on random inputs. We also examine the average extraction rates for random continuous functions.