Genome as a program

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Abstract

We consider a model of genome as a program which operates by parallel application of genes. Genes are subject to gene regulation. We discuss genome as a functional program written in Haskell-like language: parallel functioning of genes is described by recursive application of list of functions (genes) as applicative list functor and gene regulation is described by monadic computations. Darwinian evolution in this picture is described as learning for functional programs, in particular learning model for functional programs is formulated.