WORKSHOP

MIRIX PEOPLE

Things we have shown:

We spent a lot of time talking about S, the Speed prior. S is a computable semi-measure. AIS is like AIξ but with S instead of ξ.

(1) S is not universal, because it is computable (and there is not universal computable prior)
(2) S is not a measure, for exactly the same reason that the Solomonoff prior is not a measure
(3) The algorithm AS from that paper is wrong, because it's not actually ϵ-optimal. Counterexample: you have a small program that outputs x, and then a bunch of large programs which also output x. The algorithm halts prematurely and has a bad estimate.
(4) However, we made up our own algorithm which does the same thing. Basically, it's clear that S is lower semi-computable. So we show that $S(x) - S(x0) - S(x1)$ is also lower semi-computable, which leads to $S(x0)$ being computable.
(5) ϵ-optimal AIS is computable.