Algorithms – Hang the DJ

Black Mirror episode 4 season 4

Tinder 🡪 500 years

Tinder + E-Harmony = futuristic app that finds you a match

Romantic and technologically profound showcase of how technology really could, I mean, this is not a fantasy. This very serious. This- technology really could change everything and change the lives of everybody how uses it.

**The System** 🡪 Database of Users

* For each user – it takes their consciousness and projects it into a simulation –> beyond our technology
* Takes the two consciousnesses and project them into a simulation 🡪 results in an intricate and detailed simulation with a binary outcome – win or loss – escape (rebel against) the system or not

Show is based off of the 1 simulation between Frank and Amy:

* They took their simulation and ran it 1,000 times
* Frank and Amy had 998 rebellions out of 1,000

Human compatibility:

* Stochastic, very random, not quantifiable
* Ex. The noise he makes after drinking water annoys her to the point that makes their relationship not successful 🡪 importance of the emphasis on the ‘win / loss over time’ portion of the algorithm

Computational intelligence is the name of the game her w/ hang the DJ:

Infinite monkey theorem: over a given length of time – anything that can happen, will happen

* Probability over time

In [artificial intelligence](https://en.wikipedia.org/wiki/Artificial_intelligence), an **evolutionary algorithm** (**EA**) is a [subset](https://en.wikipedia.org/wiki/Subset) of [evolutionary computation](https://en.wikipedia.org/wiki/Evolutionary_computation)[[*why?*](https://en.wikipedia.org/wiki/Wikipedia:Please_clarify)], a generic population-based [metaheuristic](https://en.wikipedia.org/wiki/Metaheuristic) [optimization](https://en.wikipedia.org/wiki/Optimization_(mathematics)) [algorithm](https://en.wikipedia.org/wiki/Algorithm). An EA uses mechanisms inspired by [biological evolution](https://en.wikipedia.org/wiki/Biological_evolution), such as [reproduction](https://en.wikipedia.org/wiki/Reproduction), [mutation](https://en.wikipedia.org/wiki/Mutation), [recombination](https://en.wikipedia.org/wiki/Genetic_recombination), and [selection](https://en.wikipedia.org/wiki/Natural_selection). [Candidate solutions](https://en.wikipedia.org/wiki/Candidate_solution) to the [optimization problem](https://en.wikipedia.org/wiki/Optimization_problem)play the role of individuals in a population, and the [fitness function](https://en.wikipedia.org/wiki/Fitness_function) determines the quality of the solutions (see also [loss function](https://en.wikipedia.org/wiki/Loss_function)). [Evolution](https://en.wikipedia.org/wiki/Evolution) of the population then takes place after the repeated application of the above operators.

Focusing on selection: people ignore the heuristics

* Score-Based (similarity searching)
* Goal-based (natural selection)

Natural selection killed off all the species that couldn’t survive 🡪 win(survive) / lose(die off)

Time Complexity: the [computational complexity](https://en.wikipedia.org/wiki/Computational_complexity) that measures or estimates the time taken for running an [algorithm](https://en.wikipedia.org/wiki/Algorithm).