

CS 312: Algorithm Analysis

Homework Assignment #22

Genetic Algorithms (10 points)

Suppose you want to discover the best combination of attributes for pizza. Using the genetic algorithm paradigm (use crossover and mutation), walk through and discuss **two** evolutionary iterations of a scenario starting from an initial population of **4** pizzas. Describe necessary assumptions about representation, genetic operators, selection approach, survival, etc. Show your best pizza after two iterations. Note that:

- The features are crust type, amount of cheese, sauce type, and # of pepperonis.
- You should provide 4 actual initial pizzas (genomes) with an appropriate feature representation.
- Assume you are provided a fitness function (e.g. a CS student) that will test any combination of these features and return a fitness measure.