1. Markov Chains
   • Probability that a given string is generated by a given Markov Chain.
   • Probability that a string of length \( k \) is generated.

2. Hidden Markov Models
   • Modeling using HMMs.
   • Viterbi’s and the forward algorithms.

3. Mapping and sequencing
   • STS-content mapping and the radiation-hybrid mapping.
   • Reduction to the TSP.
   • Computing the tightest layout.
   • Minimum tiling path problem and Dijkstra’s algorithm.
   • Coverage: expected coverage in case of random fragments.