

C++ project: Metropolis Markov Chain Monte Carlo

Minimum class design specifications:

- Abstract base class for probability distributions.
- Derived classes for specific probability distributions.
- Pure virtual functions to return the pdf of the distribution and points sampled from the distribution.
- A Markov chain class to store a chain's length, decorrelation, and acceptance.
- Markov chain class member functions to perform sampling of a probability distribution.

Minimum functionality:

- Performs a complete Metropolis MCMC simulation.
- Allows the user to specify a target distribution to be sampled.
- Plots resultant Markov chain evolutions and histograms obtained sample point distributions.
- Can store and access finished Monte Carlo runs on user request.