

LEARNING OBJECTIVES - Lecture 2 (Background on generative AI)

After attending lecture and completing the associated readings, you should be able to:

1. Derive and use the probability integral transformation, including the Box-Muller transform
2. Perform transformations of pdfs under linear mappings
3. Perform transformations of pdfs under nonlinear mappings
4. Describe alternatives to the probability integral transformation for generating samples, e.g. rejection sampling and MCMC methods
5. Discuss the unseen elements problem, Laplacian smoothing, and the Good-Turing estimator
6. Mention the main idea of normalizing flows