

The Acceptance-Transformation Method to Generate Random Variates

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Abstract: The standard method to generate random variates from a general continuous probability distribution is the acceptance-rejection method. The major drawback of this method is its inefficiency; that is, many random numbers may be rejected before a desired variate can be delivered.

We present a modification of the acceptance-rejection method that retains its wide applicability while improves its efficiency substantially. We call it the Acceptance-Transformation method. We apply this new method to many distributions to demonstrate its merits.

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