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Stochastic processes on a probability space

Definition. Stochastic processes on a probability space

A **stochastic V -process** on a probability space $(M, \mathcal{A}_M, p)$ over a probability space called *state space* $(V, \mathcal{A}_V)$ is

$$(X_i)_{i \in T}$$

where

- $X_i : M \rightarrow V$ is a [random \$V\$ -variable](#) for all $i \in T$
- T is some index set

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