Module: tf.contrib.distributions

Defined in `tensorflow/contrib/distributions/__init__.py`.

Classes representing statistical distributions and ops for working with them.

See the Statistical Distributions (contrib) guide.

Modules

`bijectors` module: Bijector Ops.

Classes

`class Bernoulli`: Bernoulli distribution.

`class BernoulliWithSigmoidProbs`: Bernoulli with `probs = nn.sigmoid(logits)`.

`class Beta`: Beta distribution.

`class BetaWithSoftplusConcentration`: Beta with softplus transform of `concentration1` and `concentration0`.

`class Binomial`: Binomial distribution.

`class Categorical`: Categorical distribution.

`class Chi2`: Chi2 distribution.

`class Chi2WithAbsDf`: Chi2 with parameter transform `df = floor(abs(df))`.

`class ConditionalDistribution`: Distribution that supports intrinsic parameters (local latents).

`class ConditionalTransformedDistribution`: A TransformedDistribution that allows intrinsic conditioning.

`class Deterministic`: Scalar `Deterministic` distribution on the real line.

`class Dirichlet`: Dirichlet distribution.

`class DirichletMultinomial`: Dirichlet-Multinomial compound distribution.

`class Distribution`: A generic probability distribution base class.

`class ExpRelaxedOneHotCategorical`: ExpRelaxedOneHotCategorical distribution with temperature and logits.

`class Exponential`: Exponential distribution.

`class ExponentialWithSoftplusRate`: Exponential with softplus transform on `rate`.

`class Gamma` : Gamma distribution.

`class GammaWithSoftplusConcentrationRate` : `Gamma` with softplus of `concentration` and `rate` .

`class Geometric` : Geometric distribution.

`class Independent` : Independent distribution from batch of distributions.

`class InverseGamma` : InverseGamma distribution.

`class InverseGammaWithSoftplusConcentrationRate` : `InverseGamma` with softplus of `concentration` and `rate` .

`class Laplace` : The Laplace distribution with location `loc` and `scale` parameters.

`class LaplaceWithSoftplusScale` : Laplace with softplus applied to `scale` .

`class Logistic` : The Logistic distribution with location `loc` and `scale` parameters.

`class Mixture` : Mixture distribution.

`class MixtureSameFamily` : Mixture (same-family) distribution.

`class Multinomial` : Multinomial distribution.

`class MultivariateNormalDiag` : The multivariate normal distribution on `R^k` .

`class MultivariateNormalDiagPlusLowRank` : The multivariate normal distribution on `R^k` .

`class MultivariateNormalDiagWithSoftplusScale` : MultivariateNormalDiag with `diag_stddev = softplus(diag_stddev)` .

`class MultivariateNormalFullCovariance` : The multivariate normal distribution on `R^k` .

`class MultivariateNormalTriL` : The multivariate normal distribution on `R^k` .

`class NegativeBinomial` : NegativeBinomial distribution.

`class Normal` : The Normal distribution with location `loc` and `scale` parameters.

`class NormalWithSoftplusScale` : Normal with softplus applied to `scale` .

`class OneHotCategorical` : OneHotCategorical distribution.

`class Poisson` : Poisson distribution.

`class PoissonLogNormalQuadratureCompound` : `PoissonLogNormalQuadratureCompound` distribution.

`class QuantizedDistribution` : Distribution representing the quantization `Y = ceiling(X)` .

`class RegisterKL` : Decorator to register a KL divergence implementation function.

`class RelaxedBernoulli` : RelaxedBernoulli distribution with temperature and logits parameters.

`class RelaxedOneHotCategorical` : RelaxedOneHotCategorical distribution with temperature and logits.

`class ReparameterizationType` : Instances of this class represent how sampling is reparameterized.

`class SinhArcsinh` : The SinhArcsinh transformation of a distribution on `(-inf, inf)` .

`class StudentT` : Student's t-distribution.

`class StudentTWithAbsDfSoftplusScale` : StudentT with `df = floor(abs(df))` and `scale = softplus(scale)` .

`class TransformedDistribution` : A Transformed Distribution.

`class Uniform` : Uniform distribution with `low` and `high` parameters.

`class VectorDeterministic` : Vector `Deterministic` distribution on `R^k` .

`class VectorDiffeomixture` : VectorDiffeomixture distribution.

`class VectorExponentialDiag` : The vectorization of the Exponential distribution on `R^k` .

`class VectorLaplaceDiag` : The vectorization of the Laplace distribution on `R^k` .

`class VectorSinhArcsinhDiag` : The (diagonal) SinhArcsinh transformation of a distribution on `R^k` .

`class WishartCholesky` : The matrix Wishart distribution on positive definite matrices.

`class WishartFull` : The matrix Wishart distribution on positive definite matrices.

Functions

`assign_log_moving_mean_exp(...)` : Compute the log of the exponentially weighted moving mean of the exp.

`assign_moving_mean_variance(...)` : Compute exponentially weighted moving {mean,variance} of a streaming value.

`estimator_head_distribution_regression(...)` : Creates a `Head` for regression under a generic distribution.

`kl_divergence(...)` : Get the KL-divergence KL(distribution_a || distribution_b).

`matrix_diag_transform(...)` : Transform diagonal of [batch-]matrix, leave rest of matrix unchanged.

`moving_mean_variance(...)` : Compute exponentially weighted moving {mean,variance} of a streaming value.

`normal_conjugates_known_scale_posterior(...)` : Posterior Normal distribution with conjugate prior on the mean.

`normal_conjugates_known_scale_predictive(...)` : Posterior predictive Normal distribution w. conjugate prior on the mean.

`percentile(...)` : Compute the `q` -th percentile of `x` .

`softplus_inverse(...)` : Computes the inverse softplus, i.e., x = softplus_inverse(softplus(x)).

Other Members

`FULLY_REPARAMETERIZED`

`NOT_REPARAMETERIZED`

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