API Collection

# Normalization functions

Compute the mean and standard deviation of a vector and calculate new elements to have a zero mean and a unit standard deviation.

## Topics

### Normalization Functions

{} Finding the sharpest image in a sequence of captured images

Share image data between vDSP and vImage to compute the sharpest image from a bracketed photo sequence.

`vDSP_normalize`

Computes single-precision mean and standard deviation, and then calculates new elements to have a zero mean and a unit standard deviation.

`vDSP_normalizeD`

Computes double-precision mean and standard deviation, and then calculates new elements to have a zero mean and a unit standard deviation.

## See Also

### Single-vector arithmetic functions

Absolute and negation functions

Compute the absolute or negated value of each element in a vector.

- Integration functions

  Compute the running sum, Simpson, or trapezoidal integration of a vector.

- Clipping, limit, and threshold operations

  Apply clipping, limit, or threshold rules to the elements in a vector.

- Phase computation functions

  Calculate the element-wise phase values, in radians, of a complex vector.

- Complex conjugation functions

  Calculate the complex conjugate of the elements in a vector.

- Vector squaring functions

  Compute the square, signed square, or squared magnitude of the elements in a vector.

- Fractional part extraction

  Truncate the elements of a vector to a fraction.

- Zero crossing search

  Count and find the zero crossings in a vector.