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	1.1 Matlab MAT File I/O Library	3

2 CONTENTS

• matvar\_t Mat\_VarReadInfo

MAT\_C\_UINT16 Matlab unsigned 16-bit integer class.

MAT\_C\_INT32 Matlab signed 32-bit integer class.

*MAT\_C\_UINT32* Matlab unsigned 32-bit integer class.

*MAT\_C\_INT64* Matlab unsigned 32-bit integer class.

*MAT\_C\_UINT64* Matlab unsigned 32-bit integer class.

MAT\_C\_FUNCTION Matlab unsigned 32-bit integer class.

## 1.1.2.3 anonymous enum

Matlab array flags

Enumeration values: MAT\_F\_COMPLEX 1.1.3.2 int Mat\_CalcSubscripts C05@intkt\_@ints@@cstarSputss@intpts.,int

1.1.3.5

## EXAMPLE: To create a cell array of size 3x2:

```
int rank=2, dims[2] = {3,2};
matvar_t **vars;

vars = malloc(3*2*sizeof(matvar_t *));
vars[0] = Mat_VarCreate(...);
:
vars[5] = Mat_VarCreate(...);
```

### Parameters:

name Name of the variable to create
class\_type class type of the variable in Matlab(one of the mx Classes)
data\_type data type of the variable (one of the MAT\_T\_ Types)
rank Rank of the variable
dims array of dimensions of the variable of size rank
data pointer to the data
opt 0, or bitwise or of the following options:

## 1.1.3.15 int Mat\_VarGetNumberOfFields (matvar\_t matvar)

Returns the number of fields in the given structure. MAT file version must be 5.

### Parameters:

matvar Structure matlab variable

### Returns:

Number of fields, or a negative number on error

## 1.1.3.16 size\_t Mat\_VarGetSize (matvar\_t matvar)

## Parameters:

*matvar* matlab variable

### Returns:

size of the variable in bytes

# 1.1.3.17 matvar\_t Mat\_VarGetStructField (matvar\_t matvar, void name\_or\_index, int opt, int index)

1.1.3.26 matvar\_t Mat\_VarReadNext (mat\_t mat)

1.1.3.30 int Mat\_VarWriteInfo (mat\_t mat,

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## Chapter 2

# LIBMATIO API Data Structure Documentation

## 2.1 mat\_t Struct Reference

Matlab MAT File information.

## **Data Fields**

- long bof
- int byteswap
- char filename
- FILE fp
- char header
- int mode
- char subsys\_offset
- int version

## 2.1.1 Detailed Description

Contains information about a Matlab MAT file

## 2.1.2 Field Documentation

## 2.2 matvar\_t Struct Reference

Matlab variable information.

## **Data Fields**

- int class\_type
- int compression

2.2.2.6 long matvar\_t::datapos

matvar\_t::imos

matvar\_t:fps

## 2.3 sparse\_t Struct Reference

sparse data information

## **Data Fields**

```
void dataint irint
```

## 2.3.2.7 int sparse\_t::nzmax

Maximum number of non-zero elements

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