

StreamingCC

1.0.1

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Sampling< T >	10
ReservoirSampling< T >	9
Sketch< T >	10
CountMin< T >	5
CountSketch< T >	7
Sketch< ItemType >	10
CountMin_basic	6
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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

CountMin< T >	
Process general type of data stream	5
CountMin_basic	
CountMin_basic only process ItemType (aka int) stream, weight must be non-negative	6
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Chapter 3

Class Documentation

3.1 CountMin< T > Class Template Reference

Process general type of data stream.

```
#include <CountMin.hpp>
```

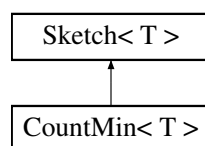
Public Member Functions

- [CountMin](#) (int *_m*, int *_d*=20)
- void [processItem](#) (const T &item, double weight=1)
process a given (weighted) item
- double [estTotWeight](#) (const T &item)

3.1.1 Detailed Description

```
template<typename T>  
class CountMin< T >
```

Process general type of data stream. Inheritance diagram for CountMin< T >:



3.1.2 Constructor & Destructor Documentation

3.1.2.1 `template<typename T > CountMin< T >::CountMin (int _m, int _d = 20) [inline]`

Parameters

<div>↩ _↩ <i>m</i></div>	size of buffer
<div>↩ _↩ <i>d</i></div>	number of buffers

3.1.3 Member Function Documentation

3.1.3.1 `template<typename T > double CountMin< T >::estTotWeight (const T & item)` `[inline]`

Returns

estimation of total weight of the given item

The documentation for this class was generated from the following file:

- `include/CountMin.hpp`

3.2 CountMin_basic Class Reference

`CountMin_basic` only process ItemType (aka int) stream, weight must be non-negative.

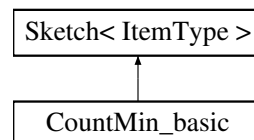
```
#include <CountMin_basic.h>
```

Public Member Functions

- `CountMin_basic` (int *_m*, int *_d*=20)
- void `processItem` (const ItemType &item, double weight=1)
process a given (weighted) item
- double `estTotWeight` (const ItemType &item)

3.2.1 Detailed Description

`CountMin_basic` only process ItemType (aka int) stream, weight must be non-negative. Inheritance diagram for CountMin_basic:



3.2.2 Constructor & Destructor Documentation

3.2.2.1 `CountMin_basic::CountMin_basic (int _m, int _d = 20)`

Parameters

\leftarrow $_ \leftarrow$ <i>m</i>	size of buffer
\leftarrow $_ \leftarrow$ <i>d</i>	number of buffers

3.2.3 Member Function Documentation

3.2.3.1 double CountMin_basic::estTotWeight (const ItemType & item)

Returns

estimation of total weight of the given item

The documentation for this class was generated from the following files:

- include/CountMin_basic.h
- src/CountMin_basic.cpp

3.3 CountSketch< T > Class Template Reference

Process general type of data stream.

```
#include <CountSketch.hpp>
```

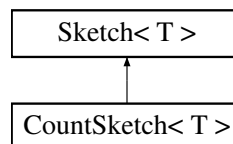
Public Member Functions

- [CountSketch](#) (int _m, int _d=20)
- void [processItem](#) (const T &item, double weight=1)
process a given (weighted) item
- double [estTotWeight](#) (const T &item)
give an estimation of total weight of the given item

3.3.1 Detailed Description

```
template<typename T>
class CountSketch< T >
```

Process general type of data stream. Inheritance diagram for CountSketch< T >:



3.3.2 Constructor & Destructor Documentation

3.3.2.1 template<typename T > CountSketch< T >::CountSketch (int _m, int _d=20) [inline]

Parameters

\leftarrow \leftarrow m	size of buffer
\leftarrow \leftarrow d	number of buffers

The documentation for this class was generated from the following file:

- include/CountSketch.hpp

3.4 CountSketch_basic Class Reference

[CountSketch_basic](#) only process ItemType (aka int) stream, weight can be negative.

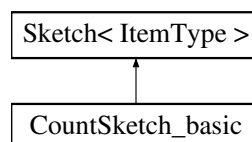
```
#include <CountSketch_basic.h>
```

Public Member Functions

- [CountSketch_basic](#) (int _m, int _d=20)
- void [processItem](#) (const ItemType &item, double weight=1)
process a given (weighted) item
- double [estTotWeight](#) (const ItemType &item)

3.4.1 Detailed Description

[CountSketch_basic](#) only process ItemType (aka int) stream, weight can be negative. Inheritance diagram for CountSketch_basic:



3.4.2 Constructor & Destructor Documentation

3.4.2.1 CountSketch_basic::CountSketch_basic (int _m, int _d = 20)

Parameters

\leftrightarrow _ \leftrightarrow <i>m</i>	size of buffer
\leftrightarrow _ \leftrightarrow <i>d</i>	number of buffers

3.4.3 Member Function Documentation

3.4.3.1 double CountSketch_basic::estTotWeight (const ItemType & item)

Returns

estimation of total weight of the given item

The documentation for this class was generated from the following files:

- include/CountSketch_basic.h
- src/CountSketch_basic.cpp

3.5 ReservoirSampling< T > Class Template Reference

[Sampling](#) over a data stream via Reservoir [Sampling](#).

```
#include <Sampling.hpp>
```

Public Member Functions

- [ReservoirSampling](#) (int _nSamples, bool _withRpl=true)
- void [processItem](#) (const T &item, double weight=1.)
process a given item
- std::vector< T > **getSamples** ()

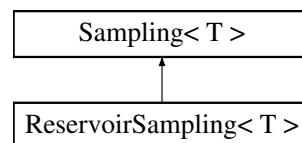
3.5.1 Detailed Description

```
template<typename T>
class ReservoirSampling< T >
```

[Sampling](#) over a data stream via Reservoir [Sampling](#).

- For sampling with replacement, both weighted and unweighted data streams are supported.
- For sampling without replacement, currently only support unweighted data stream.

Inheritance diagram for ReservoirSampling< T >:



3.5.2 Constructor & Destructor Documentation

3.5.2.1 `template<typename T > ReservoirSampling< T >::ReservoirSampling (int _nSamples, bool _withRpl = true) [inline]`

Parameters

<code>_nSamples</code>	number of samples wanted
<code>_withRpl</code>	whether sampling with replacement

3.5.3 Member Function Documentation

3.5.3.1 `template<typename T > void ReservoirSampling< T >::processItem (const T & item, double weight = 1 .) [inline], [virtual]`

process a given item

Note: for now `without_replacement` version can only handle unweighted data stream

Parameters

Parameters

<i>weight</i>	weight must be positive
---------------	-------------------------

Implements [Sampling< T >](#).

The documentation for this class was generated from the following file:

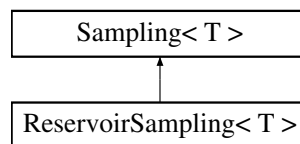
- include/Sampling.hpp

3.6 Sampling< T > Class Template Reference

Public Member Functions

- virtual void **processItem** (const T &item, double weight)=0
- virtual std::vector< T > **getSamples** ()=0

Inheritance diagram for Sampling< T >:



The documentation for this class was generated from the following file:

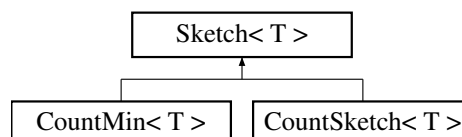
- include/Sampling.hpp

3.7 Sketch< T > Class Template Reference

Public Member Functions

- virtual void [processItem](#) (const T &item, double weight)=0
process a given (possibly weighted) item

Inheritance diagram for Sketch< T >:



The documentation for this class was generated from the following file:

- include/Sketch.h

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CountMin

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- estTotWeight, [6](#)

CountMin< T >, [5](#)

CountMin_basic, [6](#)

- CountMin_basic, [6](#)

- estTotWeight, [6](#)

CountSketch

- CountSketch, [7](#)

CountSketch< T >, [7](#)

CountSketch_basic, [8](#)

- CountSketch_basic, [8](#)

- estTotWeight, [8](#)

estTotWeight

- CountMin, [6](#)

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processItem

- ReservoirSampling, [9](#)

ReservoirSampling

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