

Toward Building Deletion Compliant Data Systems

Subhadeep Sarkar

BOSTON
UNIVERSITY





GDPR
(EU, UK)



CCPA, CPRA
(California)



VCDPA
(Virginia)

Right to be forgotten

Right to delete

Deletion right

*Out-of-place
is not so great*

Application layer

```
CREATE TABLE R (...)
```

```
  WITH RET_DUR
```

```
  {ARBITRARY | FIXED(...)}
```

```
  WITH DPT
```

```
  {ARBITRARY | FIXED(...)};
```

```
INSERT INTO R (...)
```

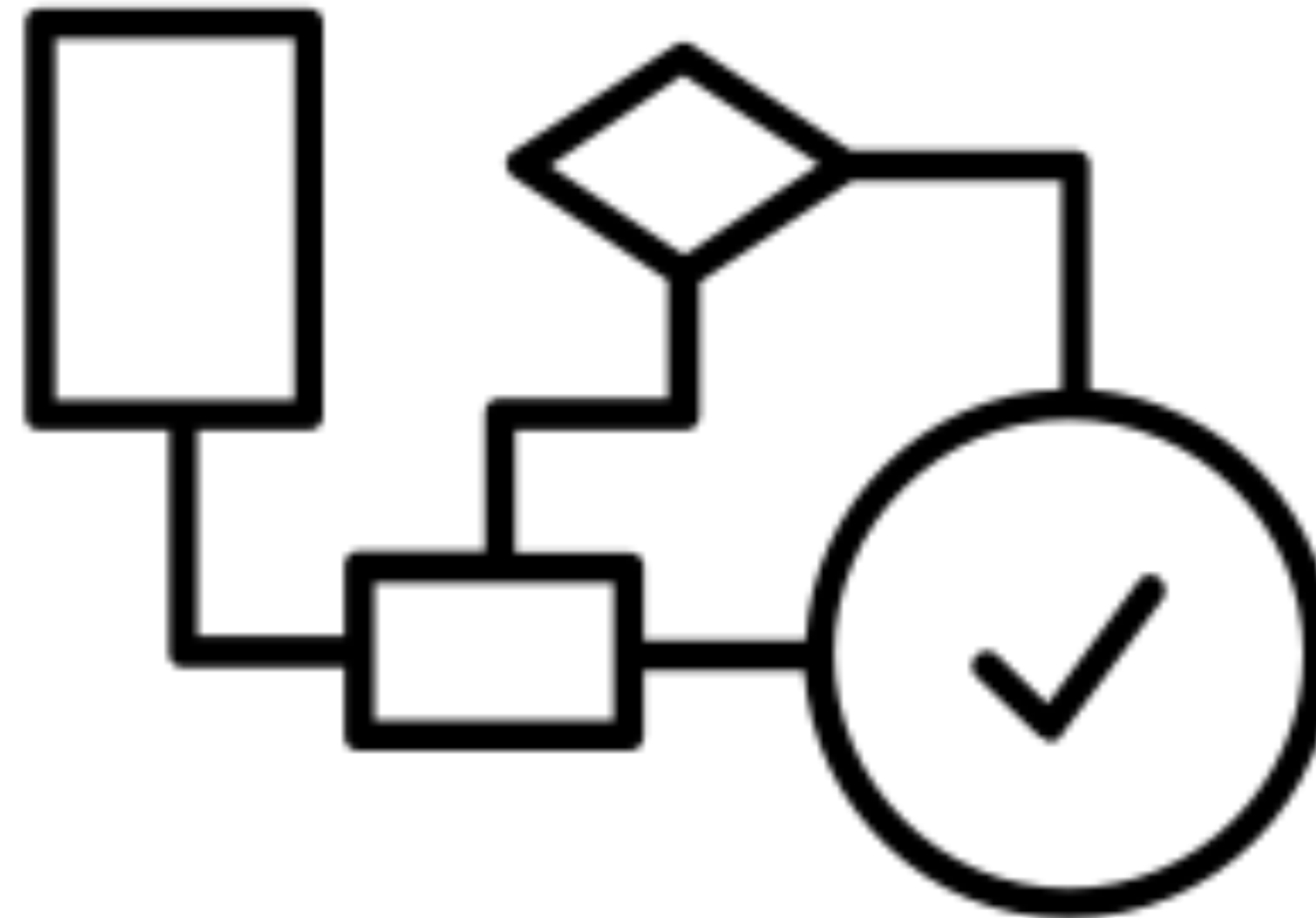
```
  WITH RET_DUR {<t>|t<i>};
```

```
DELETE FROM R
```

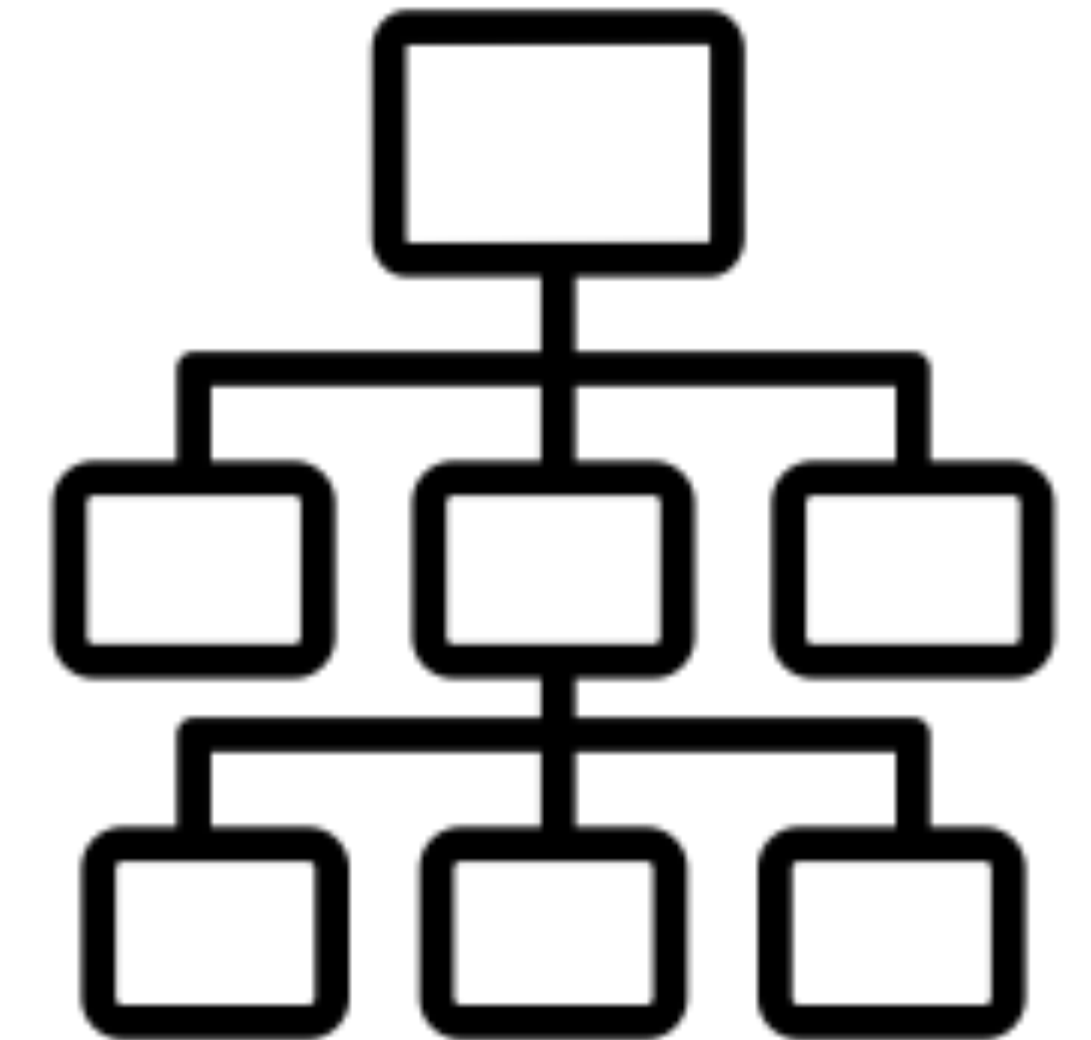
```
  WHERE (...)
```

```
  WITH DPT {<d>|d<i>};
```

System layer



Data deletion
algorithms



Key-interweaved
data layout

Sarkar et al., SIGMOD '20

Sarkar and Athanassoulis, EDBT '22

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disc.bu.edu/persistent-deletes

