



DeepDoop

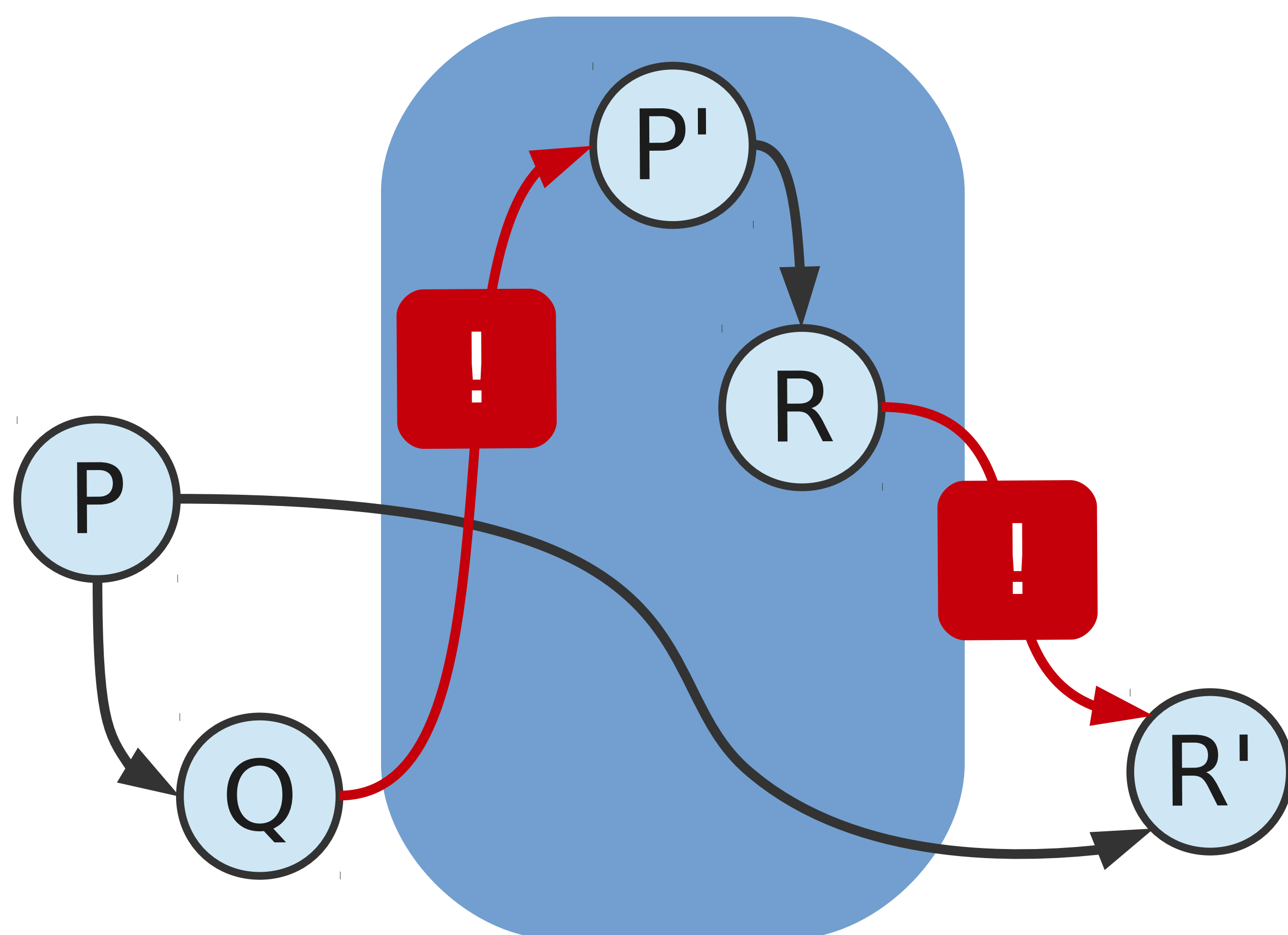
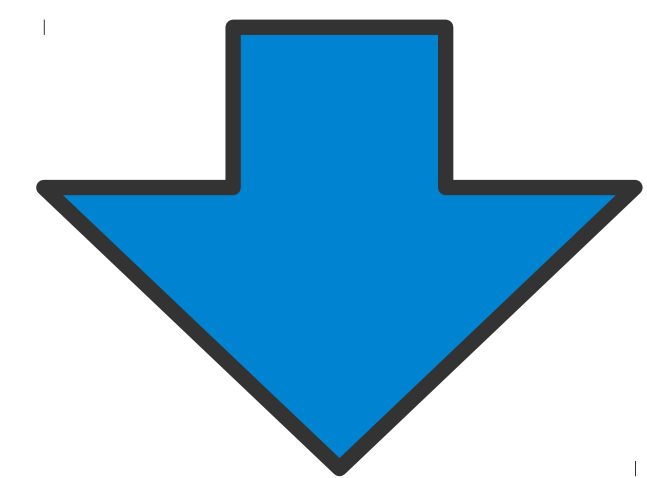
more power to Datalog

George Kastrinis

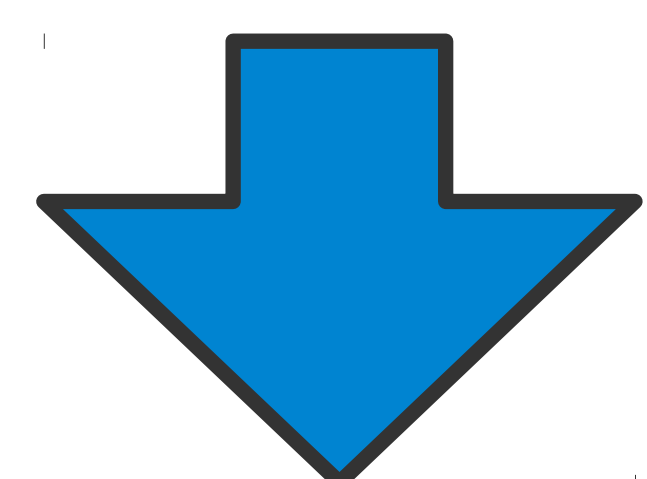
gkastrinis@di.uoa.gr

University of Athens

current
sophisticated Datalog
program analyses



staging



external analyses
&

specialized
data structures

rich pipelines
of multiple analyses

```
P(...) ← In1(...), Q(...)
```

```
.comp Init {  
  P1(...) ← In2(...)  
}  
.comp Process : Init {  
  P2(...) ← P(...), P1@past(...)  
  P3(...) ← In3(...), !P4@past(...)  
}  
.comp Post {  
  P4(...) ← P2(...), X@past(...)  
}
```

```
.cmd Ext {  
  lang:cmd:EVAL[] = “./run.sh -a”  
  lang:cmd:import(`X`)  
  lang:cmd:export(`P3`)  
  X(a, b) → string(a), int(b)  
}
```

```
.init S1 = Init  
.init S2 = Process  
.init S3 = Ext  
.init S4 = Post
```

```
.propagate S1 { * } to S2  
.propagate S2 { P3 } to S4  
.propagate S3 { * } to S4  
.propagate S4 { * } to .global
```

e.g.

must-alias with specialized
data structures in Java
&
points-to analysis in Datalog

dependency graph

