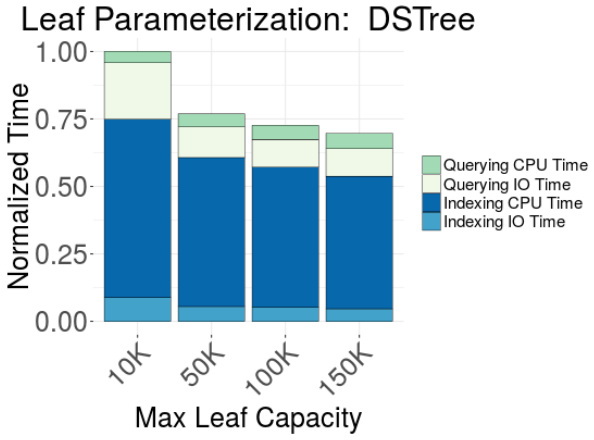
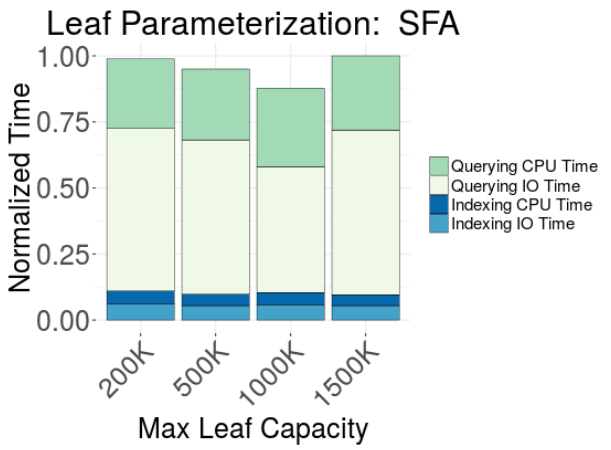
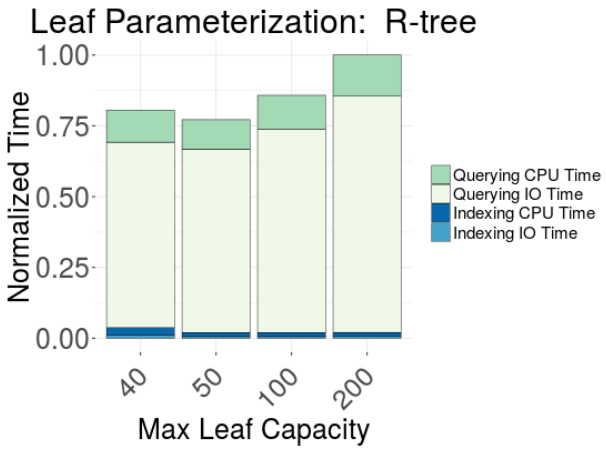
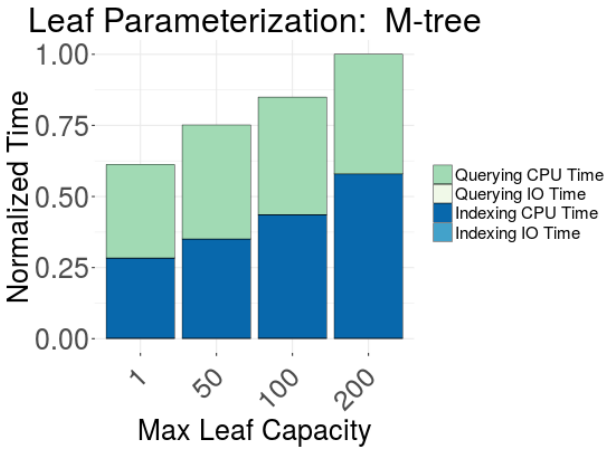
Karima Echihabi, Kostas Zoumpatianos, Themis Palpanas, Houda Benbrahim

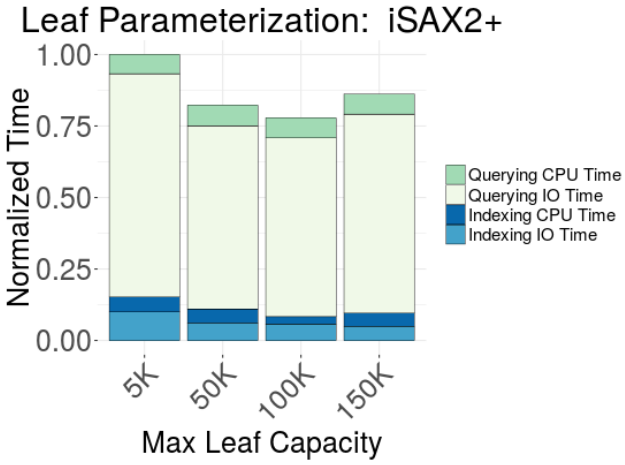
Leaf Size Parameterization

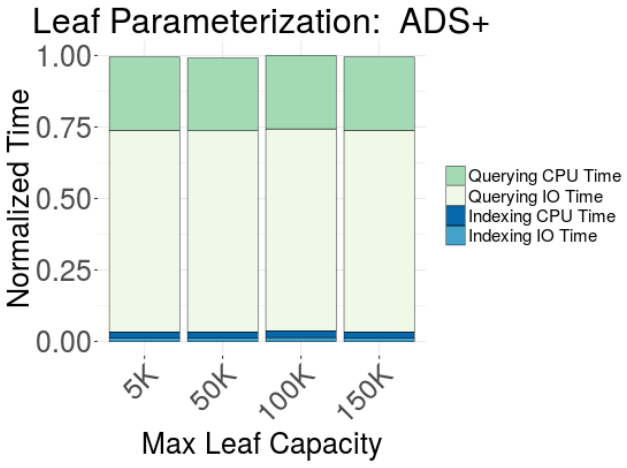




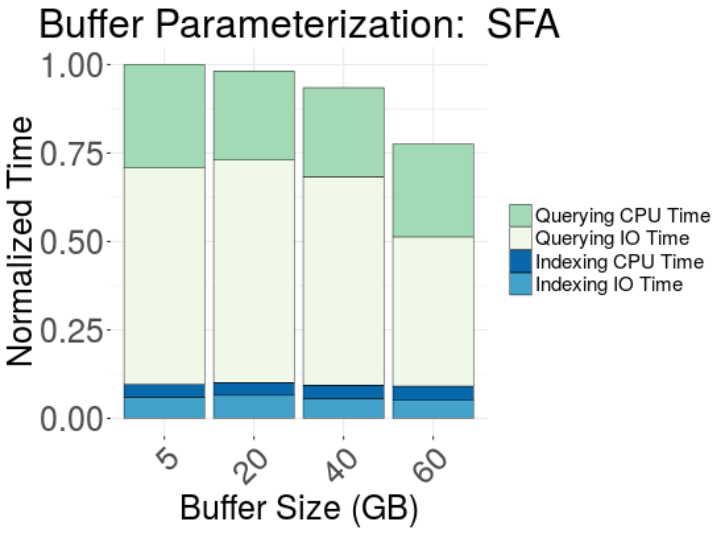


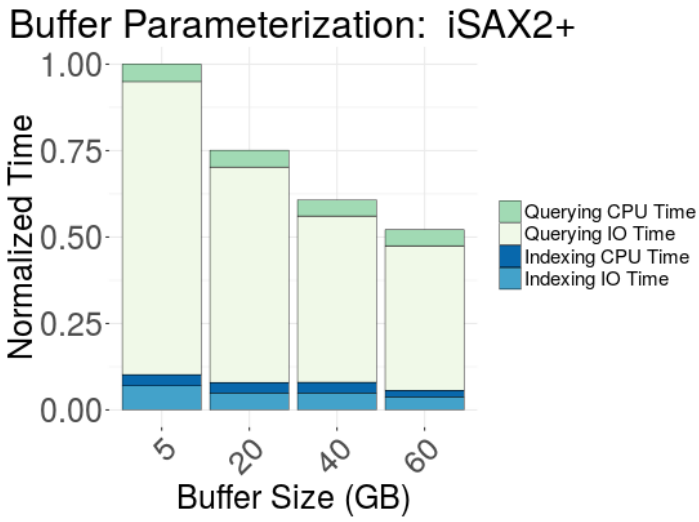


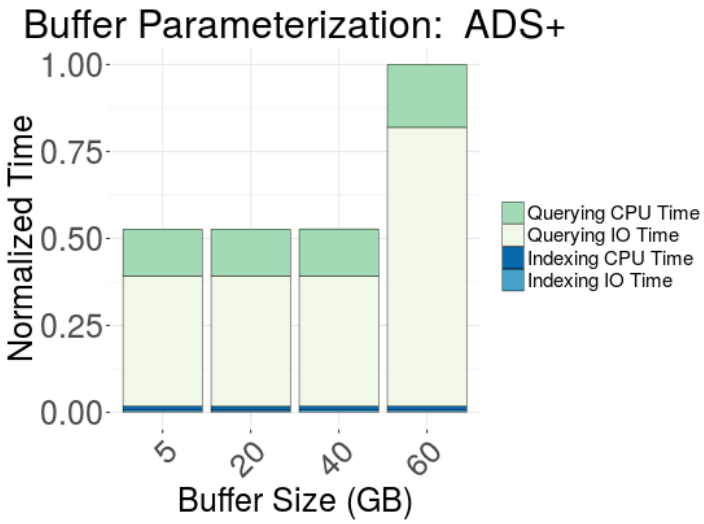


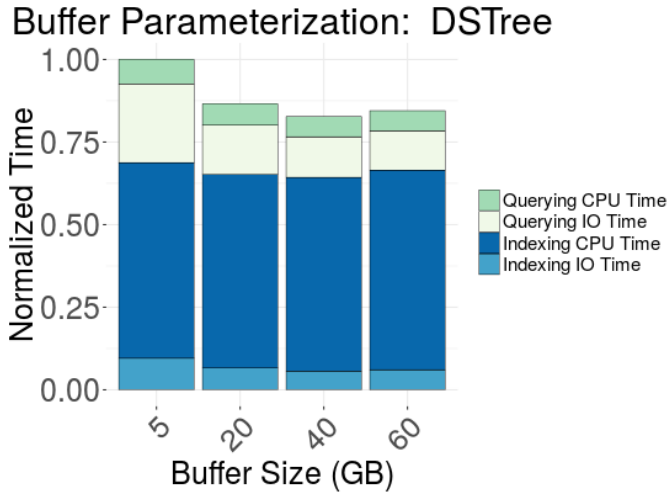


Buffer Size Parameterization



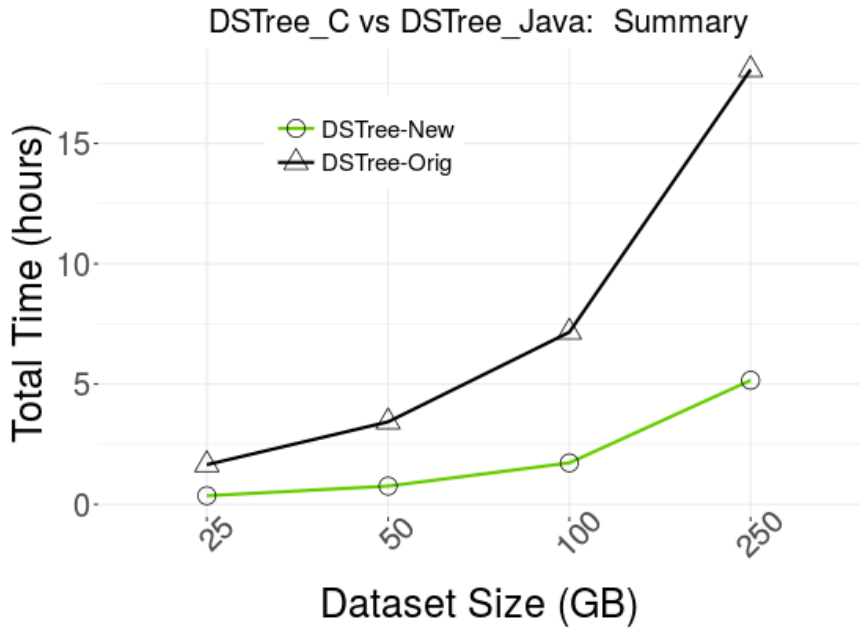




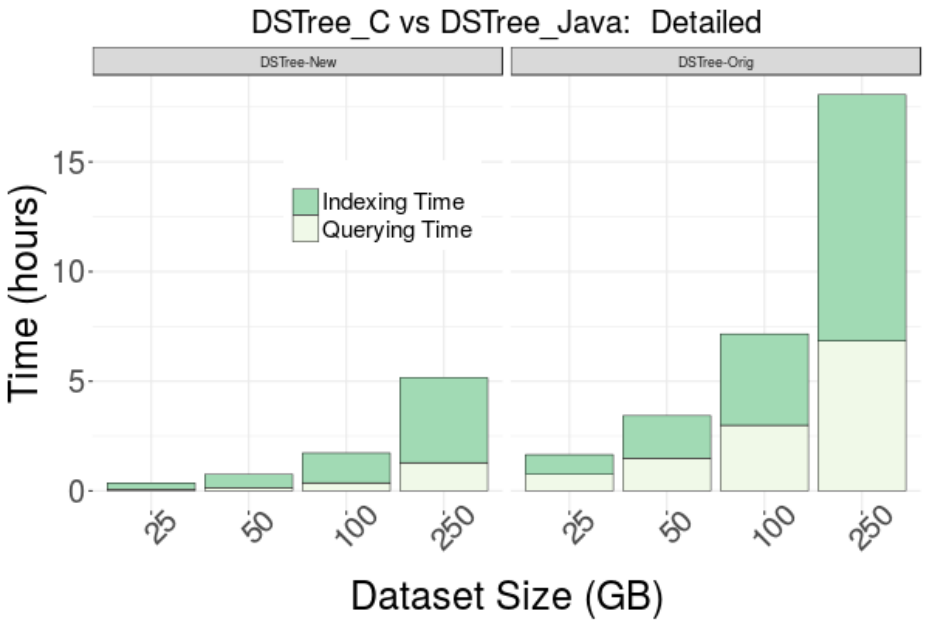


New DSTree Performance Improvements

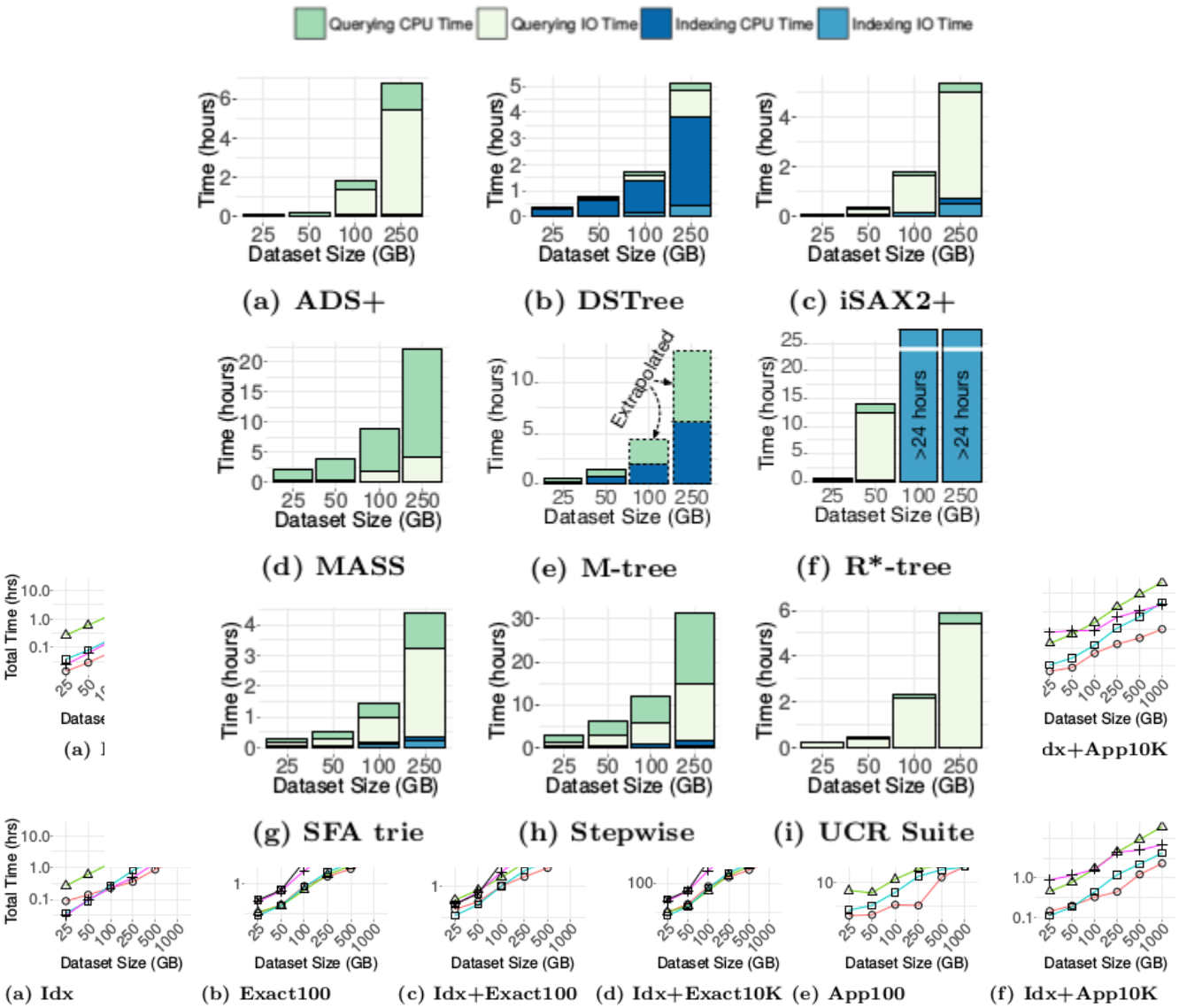
Combined Indexing and Querying Times



Detailed Indexing and Querying Times

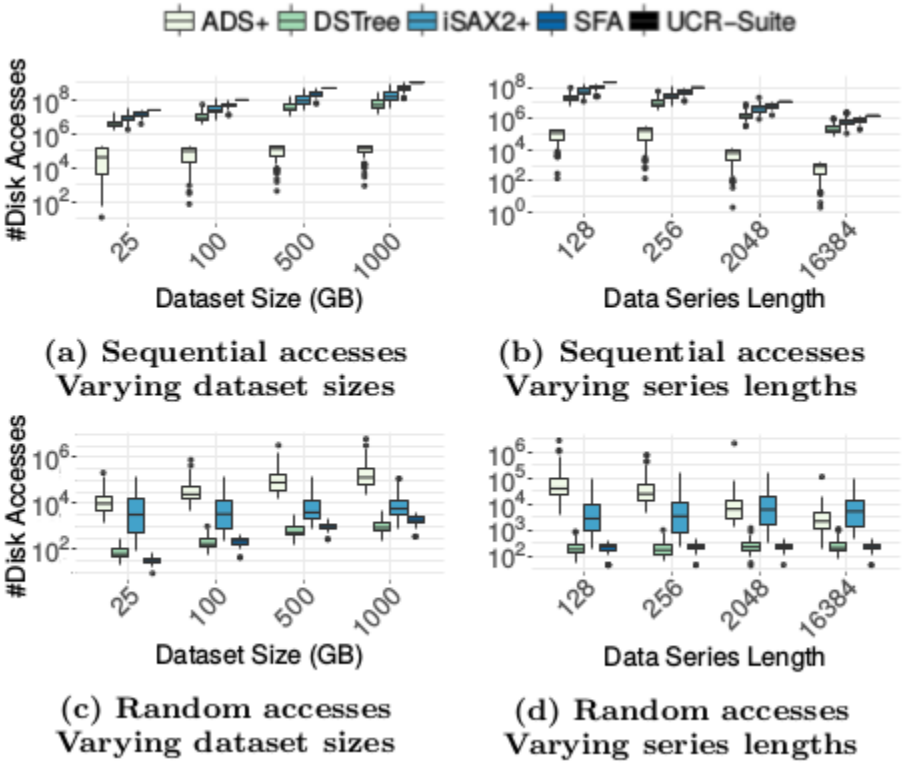


Scalability and Search Efficiency vs. Datasize

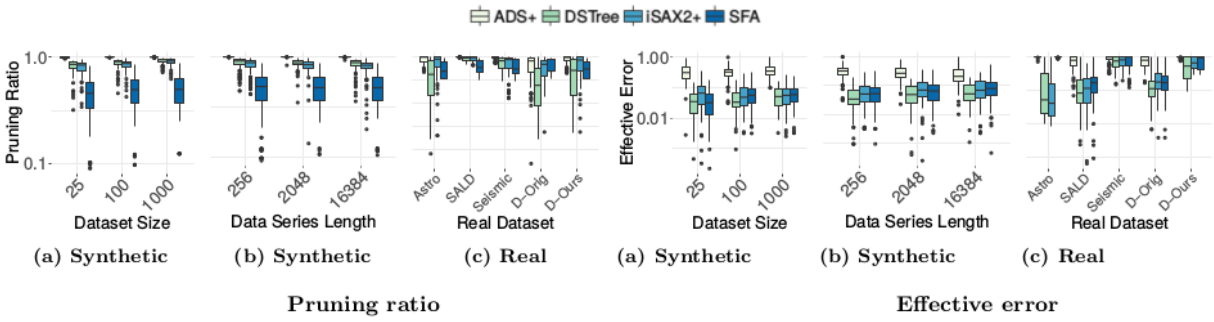


Scalability comparison (SSD)

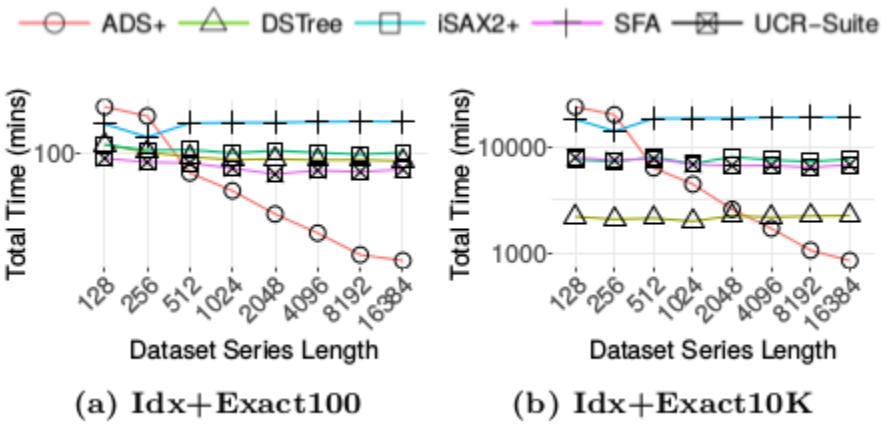
Comparison of Disk Accesses



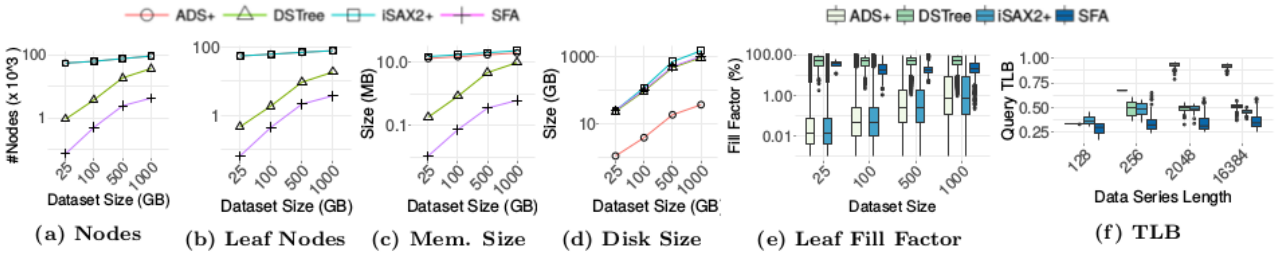
Comparison of Pruning and Effective Error



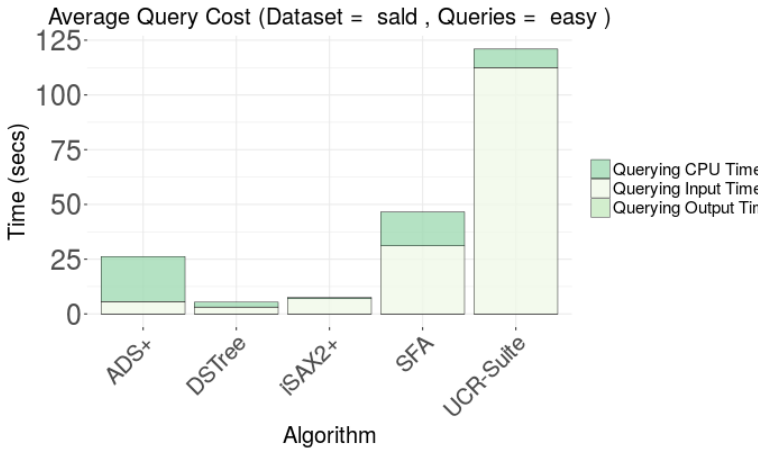
Scalability and Search Efficiency vs. Length

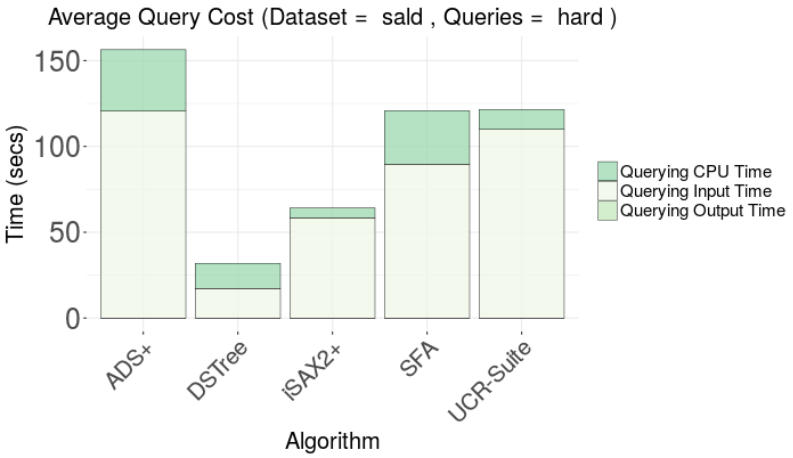


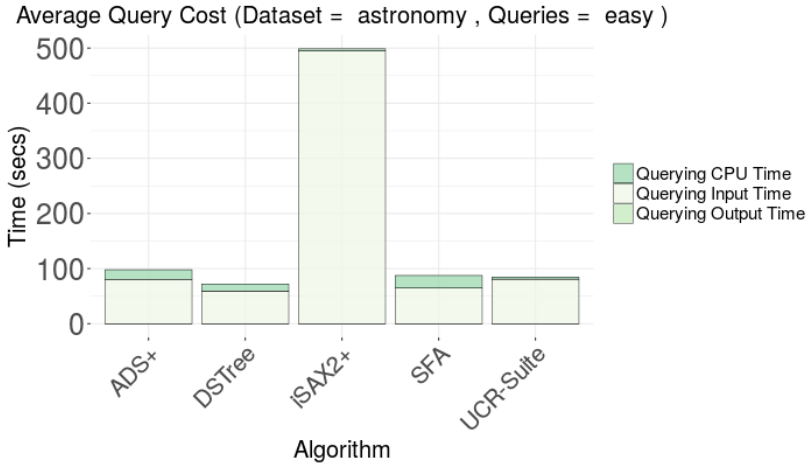
Memory/Disk Footprint + TLB

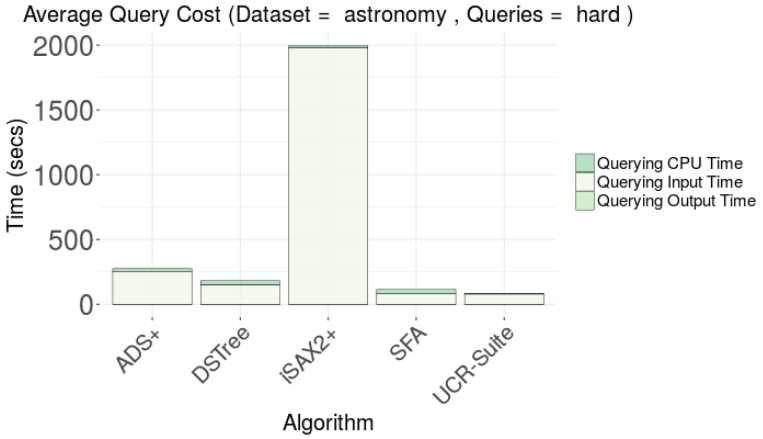


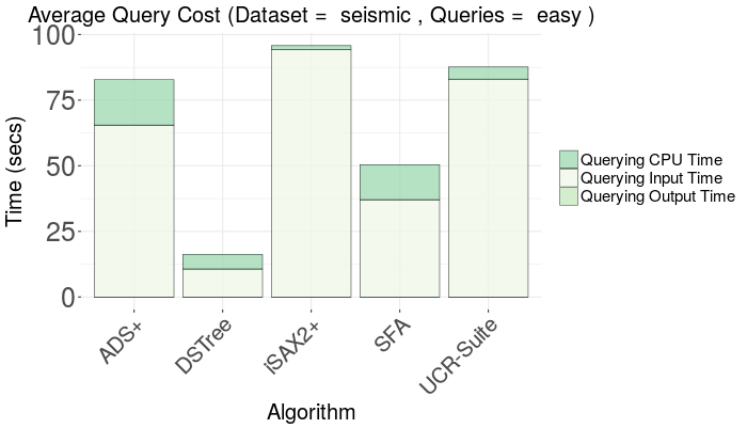
Real Data Experiments-Average Query Time-HDD

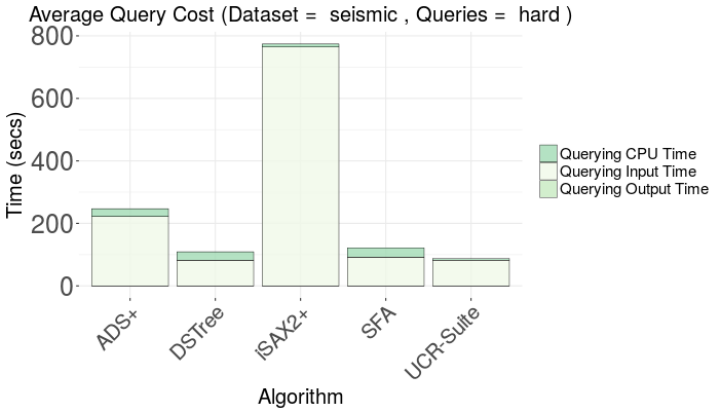


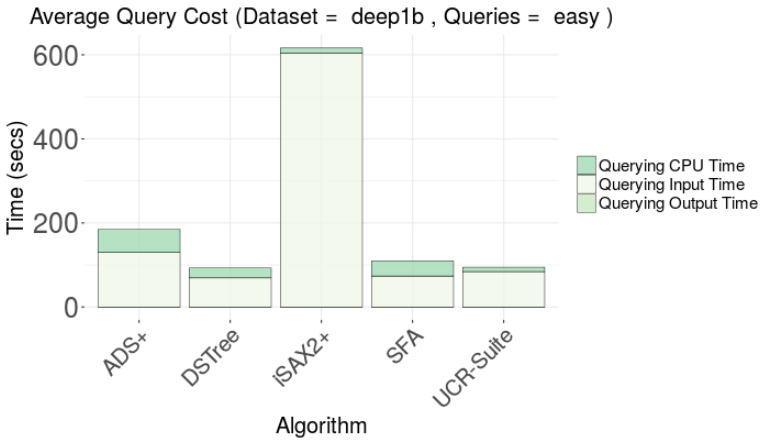


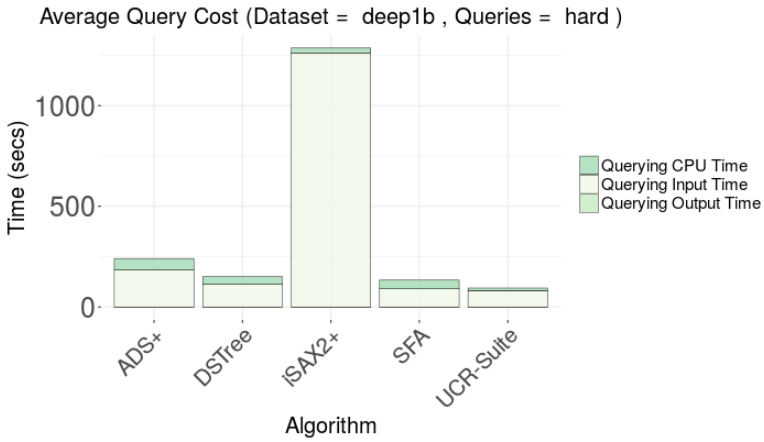




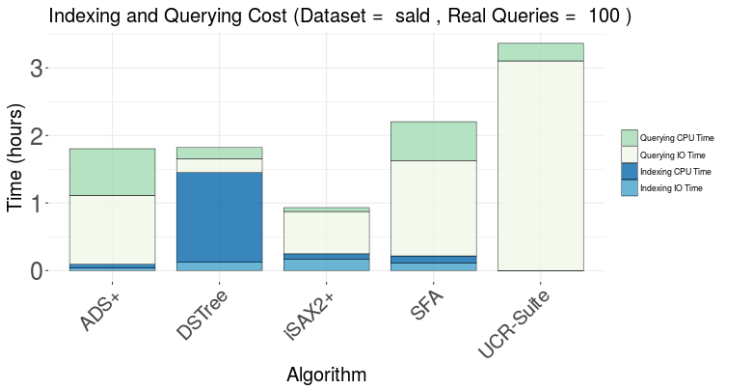


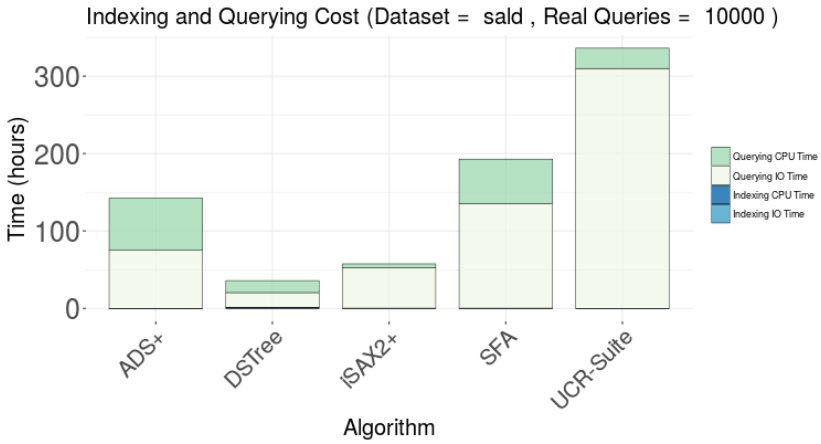


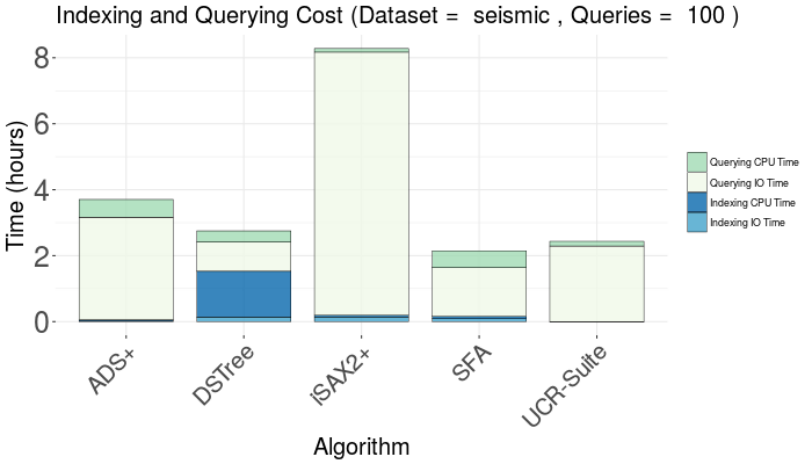

Average Query Cost (Dataset = deep1b , Queries = easy)
Time (secs)
600
400
200
0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying Input Time
Querying Output Time

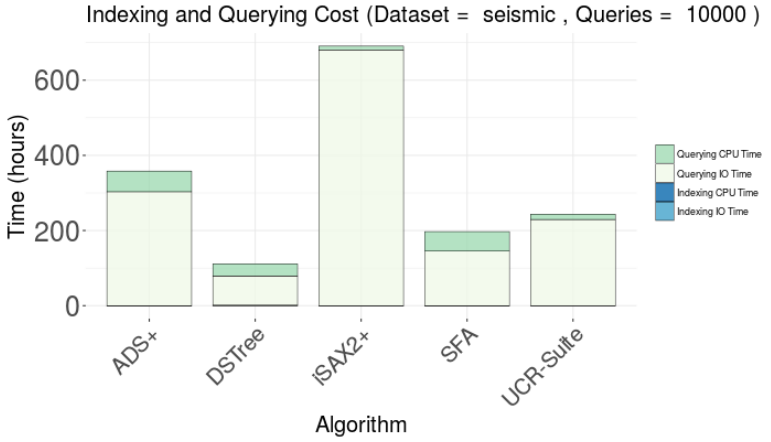

Average Query Cost (Dataset = deep1b , Queries = hard)
Time (secs)
1000
500
0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying Input Time
Querying Output Time

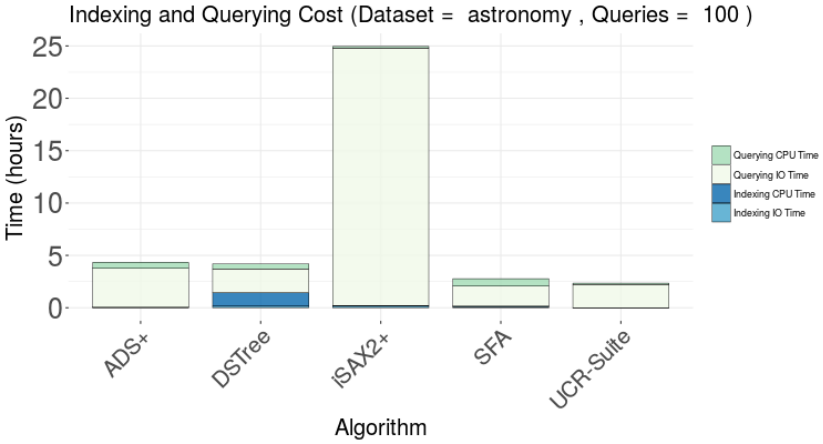
Real Data Experiments-Total Workload Time-HDD

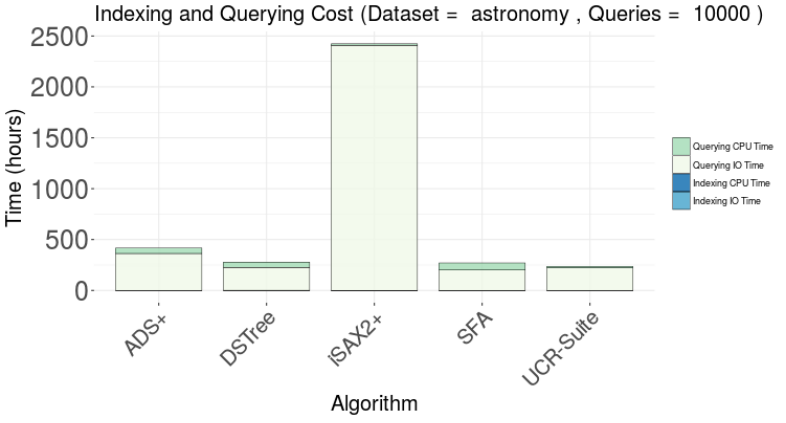


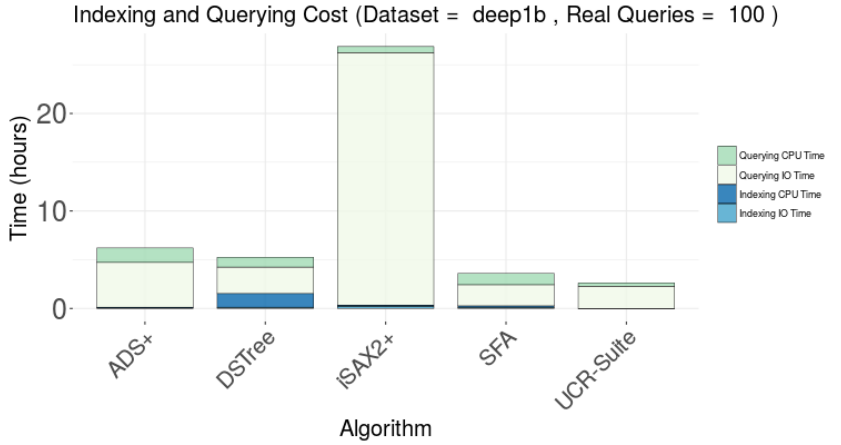


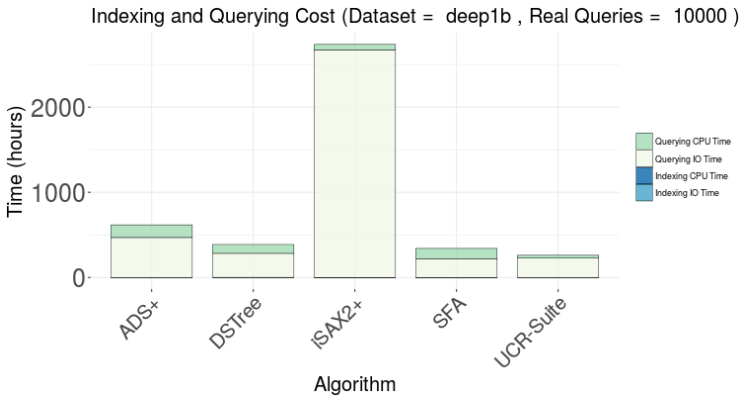


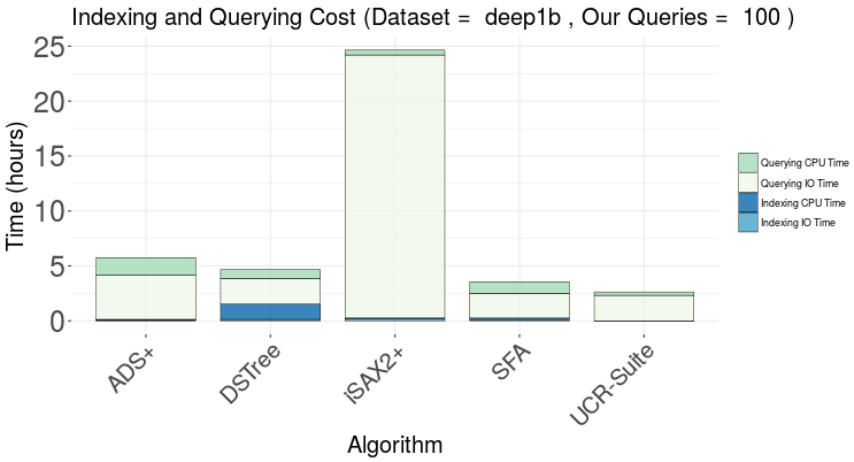


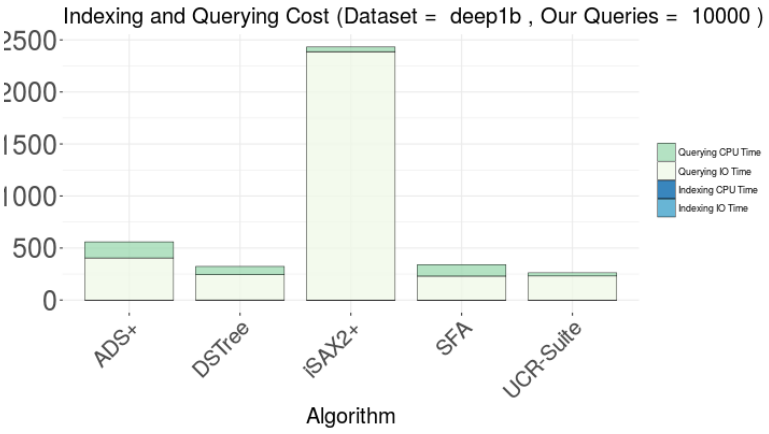




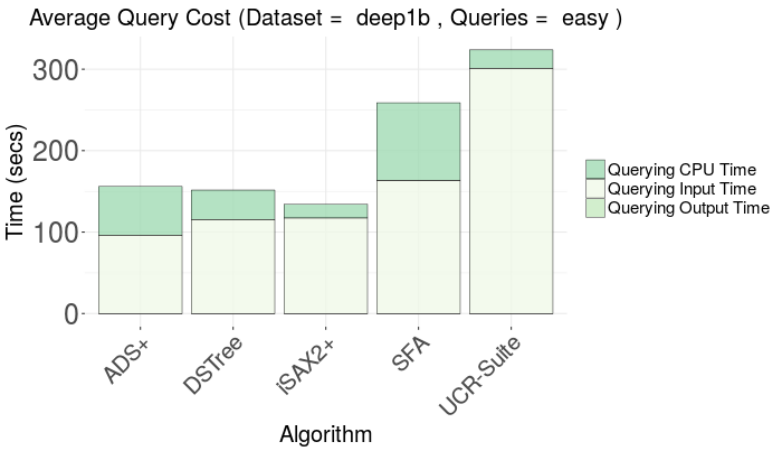

Indexing and Querying Cost (Dataset = deep1b , Real Queries = 100)
Time (hours)
0
10
20
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time

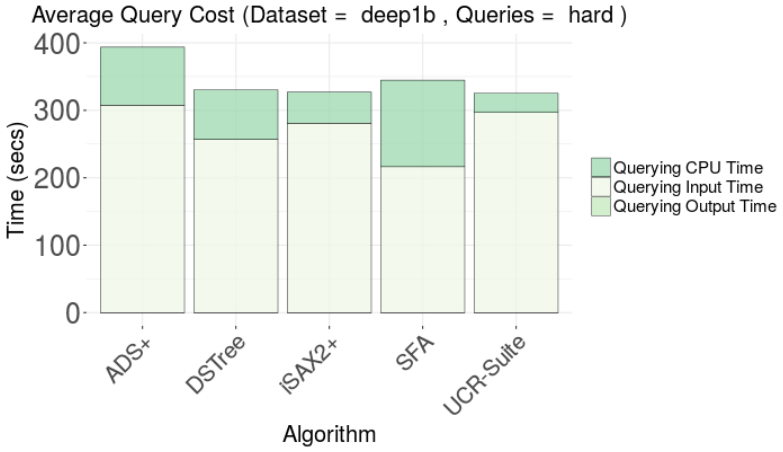

Indexing and Querying Cost (Dataset = deep1b , Real Queries = 10000)
Time (hours)
0
1000
2000
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time

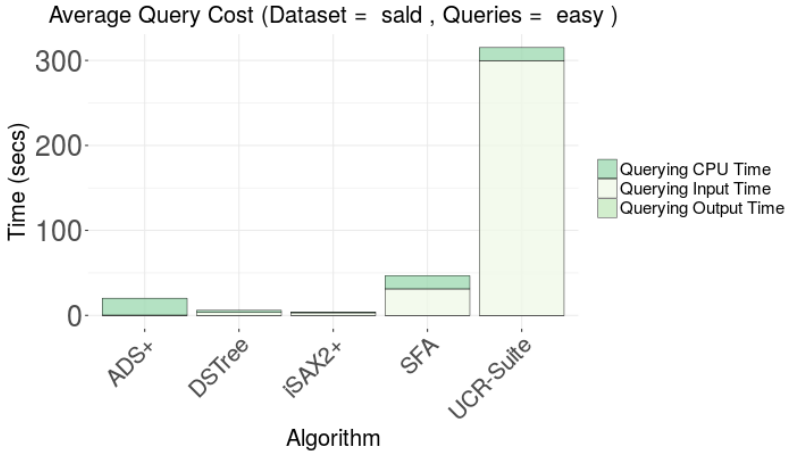

Indexing and Querying Cost (Dataset = deep1b , Our Queries = 100)
Time (hours)
0
5
10
15
20
25
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time

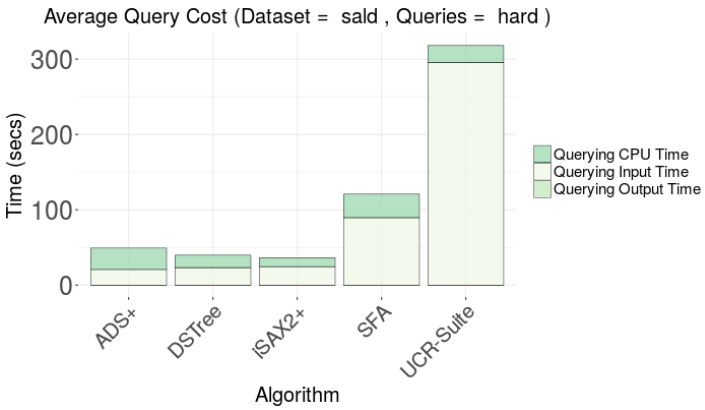

Indexing and Querying Cost (Dataset = deep1b , Our Queries = 10000)
0
500
1000
1500
2000
2500
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time

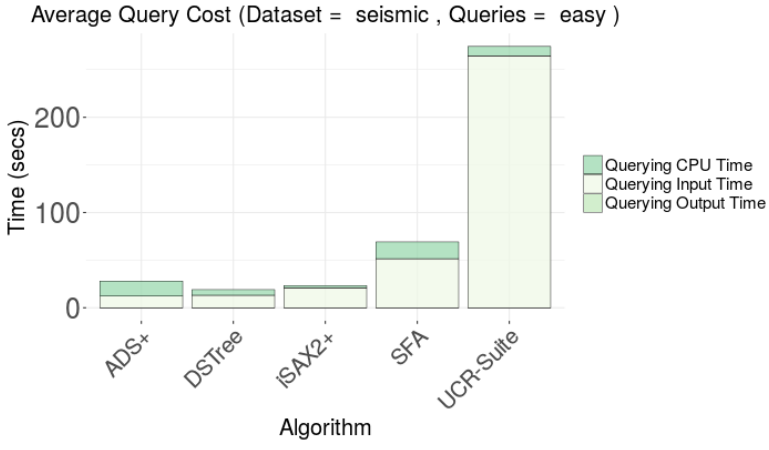
Real Data Experiments-Average Query Time-SSD

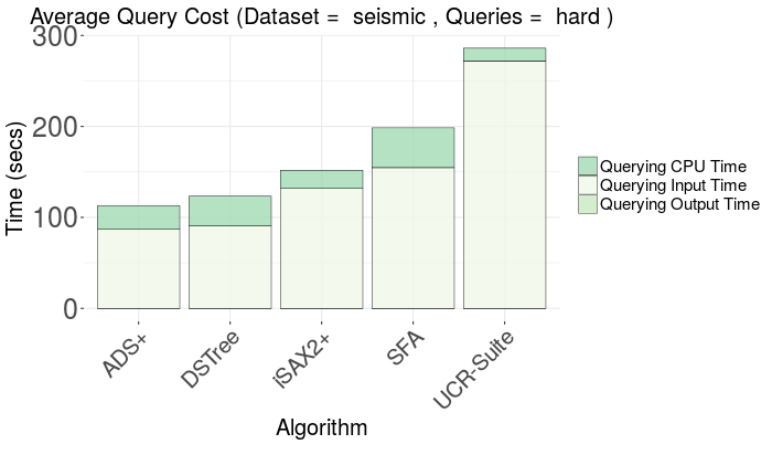


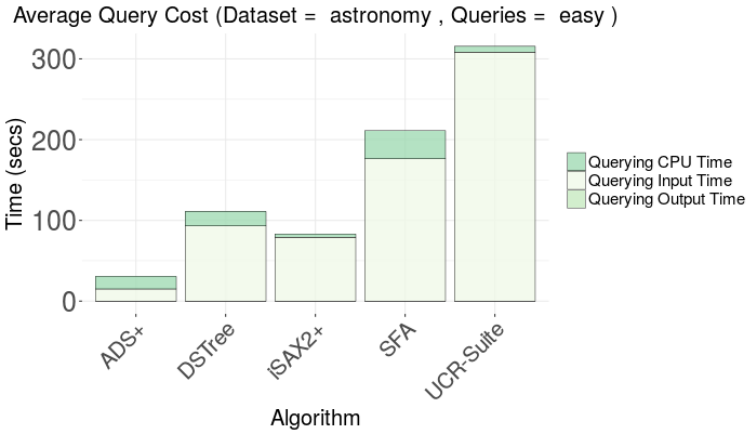


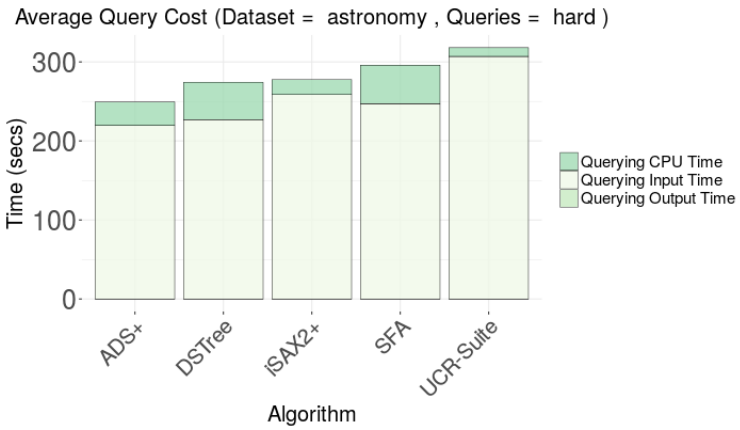




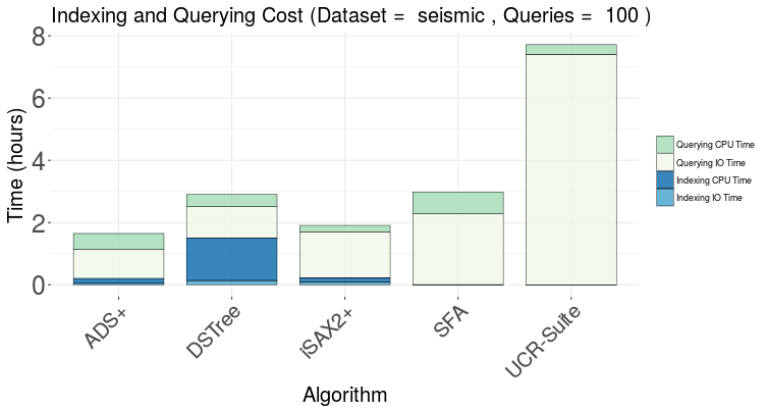


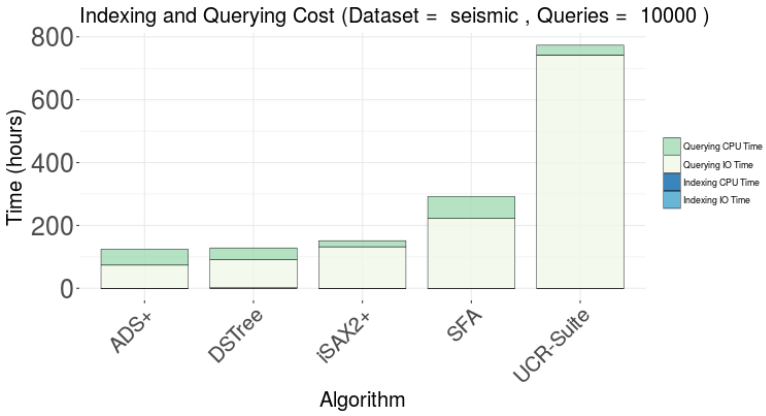


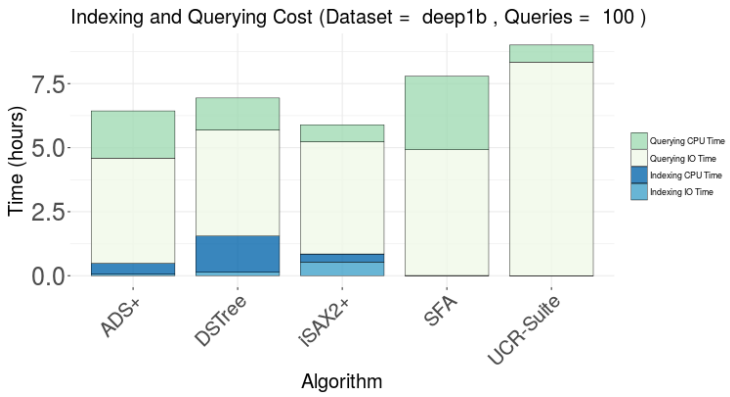

Average Query Cost (Dataset = astronomy , Queries = easy)
Time (secs)
300
200
100
0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying Input Time
Querying Output Time

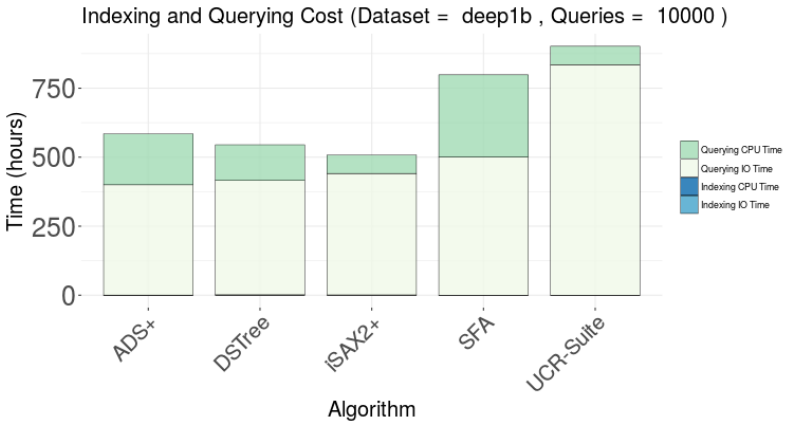

Average Query Cost (Dataset = astronomy , Queries = hard)
Time (secs)
300
200
100
0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying Input Time
Querying Output Time

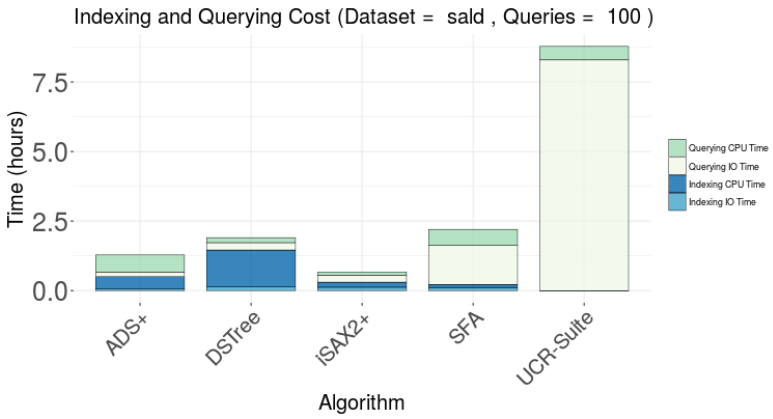
Real Data Experiments-Total Workload Time-SSD

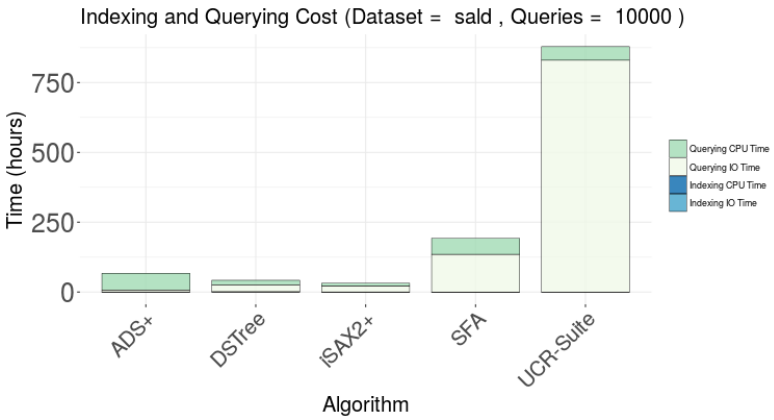


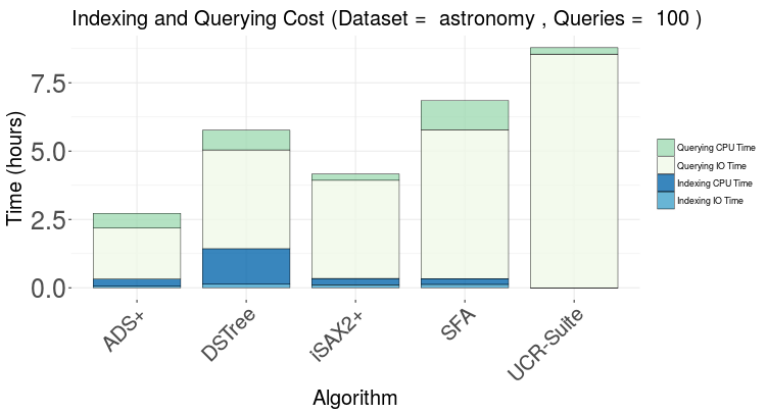


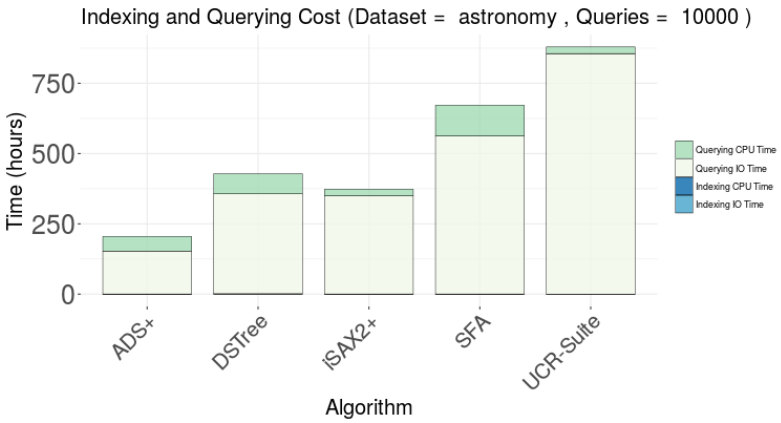









Indexing and Querying Cost (Dataset = astronomy , Queries = 100)
Time (hours)
7.5
5.0
2.5
0.0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time


Indexing and Querying Cost (Dataset = astronomy , Queries = 10000)
Time (hours)
750
500
250
0
ADS+
DSTree
iSAX2+
SFA
UCR-Suite
Algorithm
Querying CPU Time
Querying IO Time
Indexing CPU Time
Indexing IO Time