(i) Data with C\_1 change (Gaussian)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 153.79 | - | 174.28 | 93.701 |
| MSE | 0.468 | - | 0.7994 | 0.319 |
| Time(in s) | 2.009 | TLE | 1.52 | 2.94 |

(ii) Data with C\_1 (Discrete)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 152.25 | - | 437.397 | 130.85 |
| MSE | 0.464 | - | 1.3335 | 0.398 |
| Time(in s) | 3.02 | TLE | 1.9 | 1.48 |

(iii) Data with C\_1, C\_2 change (Gaussian)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 320.45 | - | 426.53 | **208.167** |
| MSE | 0.320 | - | 0.4265 | **0.208** |
| Time(in s) | 3.07 | TLE | **1.51** | 1.61 |

(iv) Graph change

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 1549.23 | - | 640.75 | **589.604** |
| MSE | 4.981 | - | 2.06 | **1.895** |
| Time(in s) | 2.84 | TLE | **1.445** | 1.597 |

(v) NON- EFFECTED

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 428.152 | - | 427.8 | **418.301** |
| MSE | 1.305 | - | 1.299 | **1.285** |
| Time(in s) | 2.78 | TLE | 1.89 | **1.42** |

(vi) MULTIPLE MB TECHNIQUES

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | GAUSSIAN | GAUSSIAN | DISCRETE | DISCRETE |
| **Mb discovery techniques** | **T** | **N** | **T** | **N** |
| Pc.stable | Z,P,X,Y | J,M | Na | Na |
| Gs | C1,P, X,Y | J, M | P |  |
| iamb | C1,P, X,Y | J,M | C1,P, X,Y | J,M |
| Fast.iamb | C1,P, X,Y | J,M | C1,P, X,Y | J,M |
| Inter.iamb | C1,P, X,Y | J,M | C1,P, X,Y | J,M |
| mmpc | P, X,Y | J,M | P, X,Y | J,M |
| si.hinton.pc | P, X,Y | J,M | P, X,Y | J,M |
| hpc | P, X,Y | J,M | P, X,Y | J,M |

(viii) Small graph

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 85.62 | **83.159** | 94.1036 | 92.696 |
| MSE | 0.292 | **0.2838** | 0.321 | 0.316 |
| Time(in s) | 1.965 | 809.02 | **1.58** | 1.708 |

Nips - C1, P, Q, X, Y

NEW GRAPH 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | GAUSSIAN | GAUSSIAN | GAUSSIAN | GAUSSIAN | Gaussian |
| **Mb discovery techniques** | **T** | **N** | **M** | **E** | **P** |
| Pc.stable | C1,X,Y | J,M | J,K,L,N | G,H,I | Q |
| Gs | C1,P, X,Y | K,L, M | K,L,N | G,H,I | Q,T |
| iamb | C1,P, X,Y | K,L,M | K,L,N | G,H,I | B,Q,T |
| Fast.iamb | C1,P, X,Y | K,L,M | K,L,N | G,H,I | Q,T |
| Inter.iamb | C1,X,Y | K,L,M | K,L,N | G,I | B,Q,T |
| mmpc | P, X,Y | J,M | K,L,N | G,H,I | Q,T |
| si.hinton.pc | P, X,Y | J,M | K,L,N | G,H,I | Q,T |
| hpc | X,Y | J,M | K,L,M | G,I | Q,T |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SSE(T) | MSE(T) | SSE(N) | MSE(N) | SSE(M) | MSE(M) | SSE(E) | MSE(E) | SSE(P) | MSE(P) |
|  |  |  |  |  |  |  |  |  |  |
| 475.736 | 1.446 | **402.59** | **1.270** | **1548.86** | **4.886** | **97.633** | **0.307** | 676.30 | 2.133 |
| **428.82** | **1.303** | 409.00 | 1.290 | 1552.54 | 4.897 | **97.633** | **0.307** | 669.74 | 2.112 |
| **428.82** | **1.303** | 409.00 | 1.290 | 1552.54 | 4.897 | **97.633** | **0.307** | 632.08 | 1.99 |
| **428.82** | **1.303** | 409.00 | 1.290 | 1552.54 | 4.897 | **97.633** | **0.307** | 669.74 | 2.112 |
| 475.736 | 1.446 | 409.00 | 1.290 | 1552.54 | 4.897 | 100.05 | 0.3156 | 632.08 | 1.99 |
| **428.82** | **1.303** | **402.59** | **1.270** | 1552.54 | 4.897 | **97.633** | **0.307** | 669.74 | 2.112 |
| **428.82** | **1.303** | **402.59** | **1.270** | 1552.54 | 4.897 | **97.633** | **0.307** | 669.74 | 2.112 |
| 475.736 | 1.446 | **402.59** | **1.270** | 1552.54 | 4.897 | 100.05 | 0.3156 | 669.74 | 2.112 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | SSE(T) | MSE(T) | SSE(N) | MSE(N) | SSE(M) | MSE(M) | SSE(E) | MSE(E) | SSE(P) | MSE(P) |
| GSS | 442.89 | 1.39 | 771.17 | 2.4327 | 1916.3 | 6.045 | 96.70 | 0.3050 | 696.41 | 2.19 |
| Baseline | 360.64 | 1.13 | 360.01 | 1.1356 | 1695.9 | 5.35 | 100.06 | 0.3156 | 769.90 | 2.42 |

Change Graph, extreme C\_1 and c\_2 change and sample size change

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | RCTL | GSS | NIPS |
| MSE | 11410.52 | 9265.70 | 11339.8 | - |
| SSE | 1.141 | 0.926 | 1.133 | - |
| Time | 38.02 | 1372.80 | 92.59 | - |

Small graph c\_1, c\_2 extreme change with change in sample size

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | NIPS | Greedy subset search | Our method |
| SSE | 291.55 | 346.157 | 1121.347 | **269.473** |
| MSE | 0.29155 | 0.3461 | 1.121347 | **0.2694** |
| Time(in s) | 1.873 | 407.93 | 1.497 | **2.401** |

Nips - C1, D, X , Y