# Experiment Results

GeoText Dataset

# 5.1 Statistic of two datasets

| | GeoText[1] | Gowalla |
|---|---|---|
| # of total users | 9,475 | 196,591 |
| # of check-ins | 377,616 | 6,442,890 |
| # of distinct locations | 46,320 | 1,256,396 |
| Max # of check-ins of a user | 301 | 2,175 |
| Min # of check-ins of a user | 17 | 1 |
| Period | 2010/3 | 2009/2–2010/10 |

[1]The dataset is also adopted by Q. Yuan et al. Who, where, when and what: discover spatio-temporal topics for twitter users. In ACM KDD, 2013.
http://www.ark.cs.cmu.edu/GeoText/

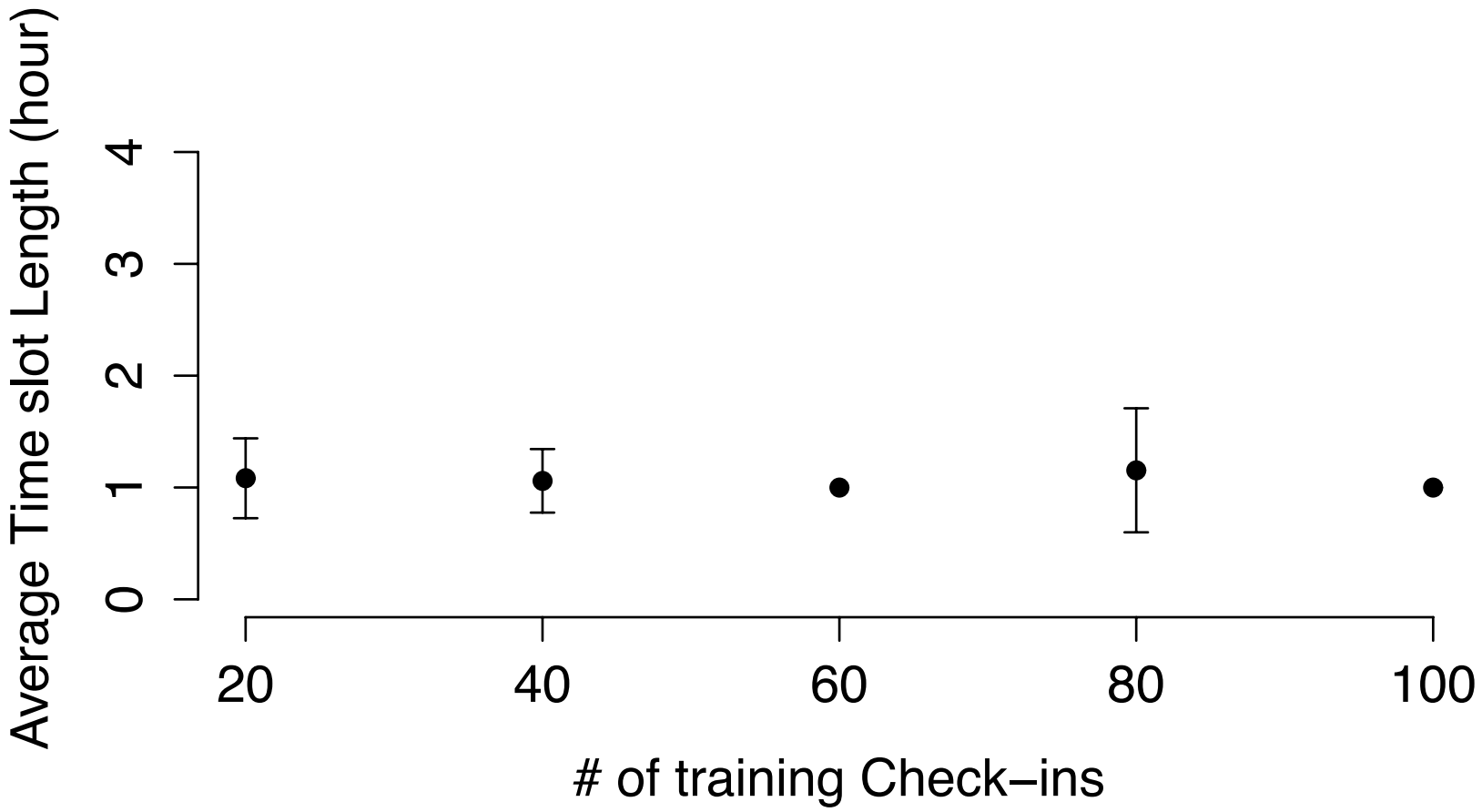
# 5.1 Statistic of category

| Activity Type[1] | GeoText | Gowalla |
|---|---|---|
| Arts & Entertainment (AE) | 15,892 | |
| Colleges & Universities (CU) | 16,697 | |
| Events (E) | 106 | |
| Food (F) | 46,332 | |
| Nightlife Spots (NS) | 16,207 | |
| Outdoors & Recreation (OR) | 39,832 | |
| Professional & Other Places (PO) | 110,108 | |
| Residences (R) | 24,387 | |
| Shops & Services (SS) | 86,526 | |
| Travel & Transport (TT) | 21,520 | |
| | 377,607 | |

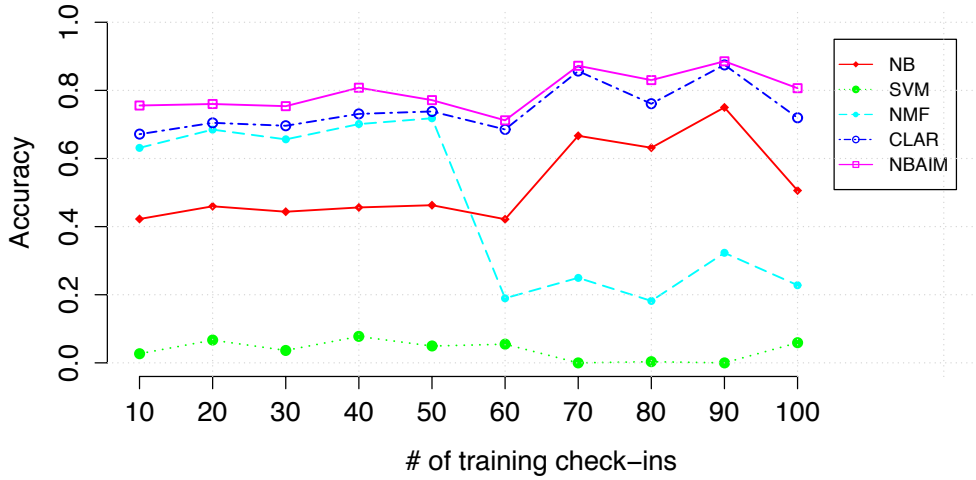


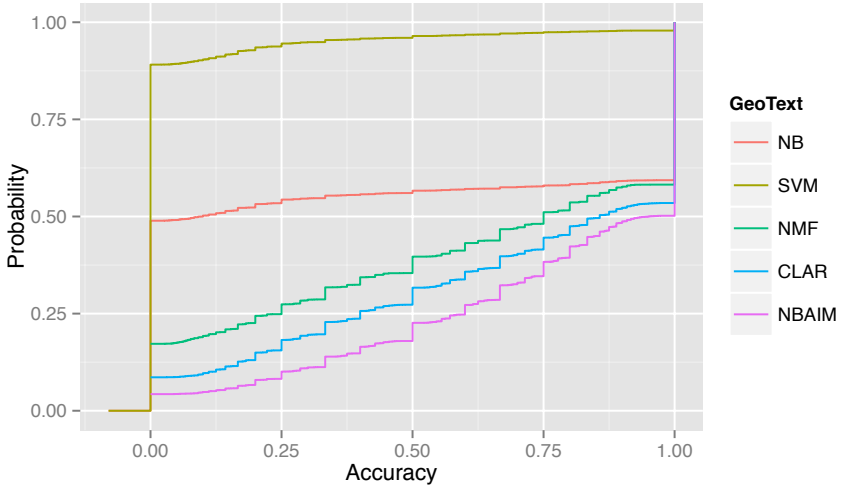
[1] https://api.foursquare.com/v2/venues/search

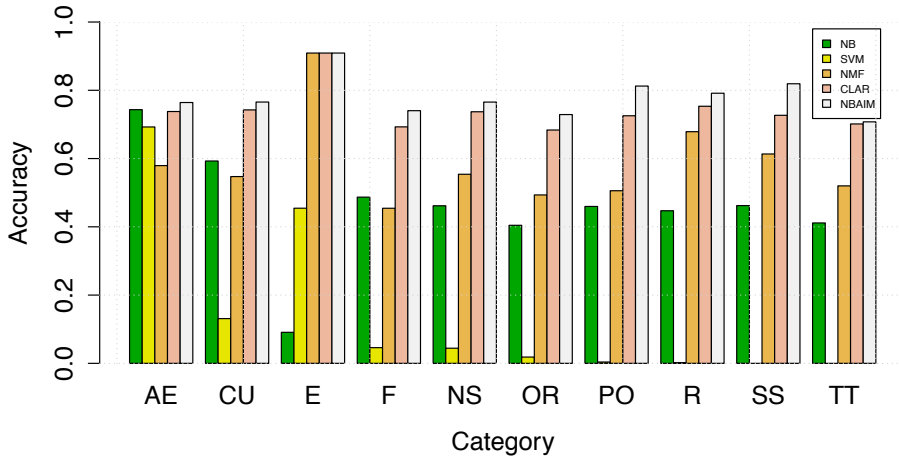
# 5.2


Average Time slot Length (hour)
0
1
2
3
4
20
40
60
80
100
# of training Check–ins

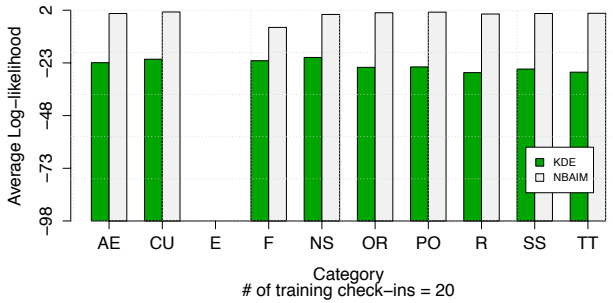
# 5.3

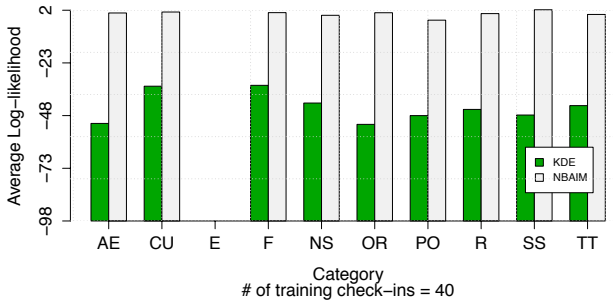

Accuracy
0.0
0.2
0.4
0.6
0.8
1.0
10
20
30
40
50
60
70
80
90
100
# of training check−ins
NB
SVM
NMF
CLAR
NBAIM

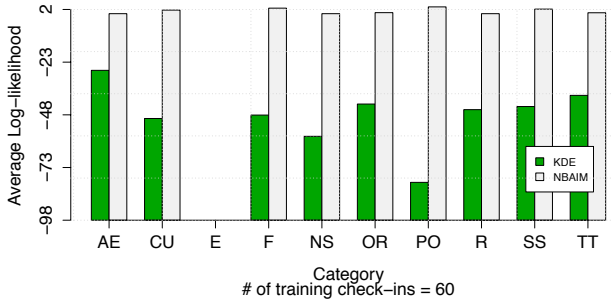

Probability
1.00
0.75
0.50
0.25
0.00
0.00
0.25
0.50
0.75
1.00
Accuracy
GeoText
NB
SVM
NMF
CLAR
NBAIM

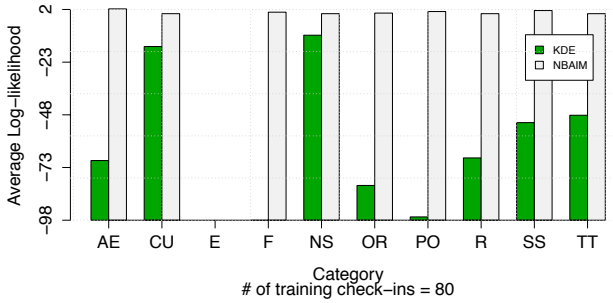

Accuracy
0.0
0.2
0.4
0.6
0.8
1.0
AE
CU
E
F
NS
OR
PO
R
SS
TT
Category
NB
SVM
NMF
CLAR
NBAIM

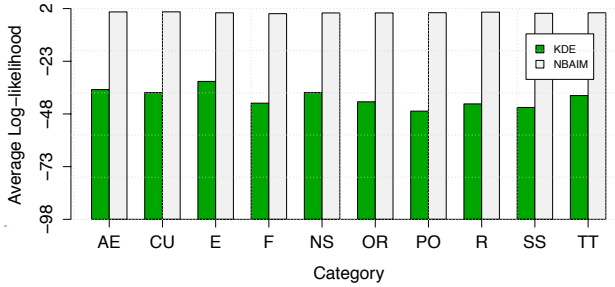
# 5.4


Average Log−likelihood
−98
−73
−48
−23
2
AE
CU
E
F
NS
OR
PO
R
SS
TT
KDE
NBAIM
Category
# of training check−ins = 20


Average Log−likelihood
−98
−73
−48
−23
2
AE
CU
E
F
NS
OR
PO
R
SS
TT
KDE
NBAIM
Category
# of training check−ins = 40


Average Log−likelihood
−98
−73
−48
−23
2
AE
CU
E
F
NS
OR
PO
R
SS
TT
KDE
NBAIM
Category
# of training check−ins = 60


Average Log−likelihood
−98
−73
−48
−23
2
AE
CU
E
F
NS
OR
PO
R
SS
TT
KDE
NBAIM
Category
# of training check−ins = 80


Average Log−likelihood
−98
−73
−48
−23
2
AE
CU
E
F
NS
OR
PO
R
SS
TT
KDE
NBAIM
Category

# Thank You