

Experiments

- ▶ **Superposition** Combine the purchasing history of the K neighbors and the prespecified user u . The Hawkes process has D^{super} dimensionals.
- ▶ **Learning** Learn the parameters μ and A from the history.
- ▶ **Prediction** Leverage the history and the parameters to compute intensity function. Use Ogata's modified thinning algorithm to simulate.

Experiments

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History:
[(36, 9792.0), (82, 10656.0), (215, 18432.0), (47, 39168.0), (4
3, 39169.0), (45, 39170.0), (46, 41760.0), (356, 46080.0), (239
, 46944.0), (161, 49536.0), (54, 56448.0), (257, 57312.0), (172
, 62496.0), (159, 62497.0), (128, 63360.0), (166, 64224.0), (21
4, 64225.0), (333, 65088.0), (312, 68544.0), (324, 72000.0), (2
80, 72001.0), (66, 84096.0), (257, 84097.0), (266, 85824.0), (1
9, 86688.0), (78, 86689.0), (314, 86690.0), (322, 86691.0), (16
9, 86692.0), (282, 97056.0), (121, 113472.0), (55, 117792.0), (
349, 122112.0), (77, 122113.0), (156, 122114.0), (22, 130752.0)
, (56, 131616.0), (78, 132480.0), (82, 137664.0)]
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Figure 1: The superposed history

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Recommendation:
[(11, 138292.4), (34, 142638.9), (10, 151090.8), (19, 151746.2)
, (20, 151758.9), (20, 151827.2), (20, 151962.6), (20, 151976.9
), (20, 152114.1), (20, 152189.9)]
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Figure 2: Results of simulation

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[(22, 142330.8), (1, 152467.4), (8, 152948.4), (9, 165521.1), (
23, 176276.5), (25, 176337.5), (24, 176345.2), (24, 176355.3),
(25, 176368.4), (26, 176371.9)]
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Figure 3: Results of simulation