Inferring Human Mobility from Sparse Low Accuracy Mobile Sensing Data

Understanding both collective and personal human mobility is a central topic in Computational Social Science. Smartphone sensing data is emerging as a promising source for studying human mobility. However, most literature focuses on high-precision GPS positioning and high-frequency sampling, which is not always feasible in a longitudinal study or for everyday applications because location sensing has a high battery cost. In this paper we study the feasibility of inferring human mobility from sparse, low accuracy mobile sensing data. We validate our results using participants’ location diaries, and analyze the inferred geographical networks, the time spent at different places, and the number of unique places over time. Our results suggest that low resolution data allows accurate inference of human mobility patterns.