

**IIDS Zoom Conference of The Evolution of Digital Entrepreneurship, Fintech and Finreg
to be held in Hong Kong Shue Yan University on 24 March 2021**

**Google mobility And Daily COVID-19 cases in Hong Kong
An investigation using Machine learning algorithmic**

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ABSTRACT

Researchers has found that social distancing can reduce COVID-19 infections. The usual proxies for social distancing are mobility data provided by Google, Facebook and other social media. A positive correlation between mobility data and COVID-19 infections implies that a reduction in social mobility (an increase in social distance) comes together with a reduction in COVID-19 infection. In this paper, we investigate the association between google mobility data and the daily COVID-19 infections in Hong Kong from 15 Feb 2020 to 28 Feb 2021 using two machine learning algorithmics, decision tree regression and predictive power score (ppscore). The empirical results show that there is negative correlation between google mobility and COVID19 infections. This indicated that as COVID19 infections increases, the risk of getting infection increases thus people reduce their mobility. However, the ppscore indicated that predictive power of COVID19 infections for most of mobility data are relatively small. The paper finds that as workplace mobility reduced to lower than 38% of the bench level (Jan 2020), the COVID-19 infections drop dramatically. It seems that legal restriction of social distancing policy become effective after the workplace mobility reduced by 38%.