

THERE IS NO LOGIC THAT CAN BE SUPERIMPOSED ON THE CITY; PEOPLE MAKE IT, AND IT IS TO THEM, NOT BUILDINGS, THAT WE MUST FIT OUR PLANS.

JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES*

INFORMATION IS THE OIL OF THE 21ST CENTURY, AND ANALYTICS IS THE COMBUSTION ENGINE

PETER SONDERGAARD, *SENIOR VICE PRESIDENT, GARTNER*

ERRORS USING INADEQUATE DATA ARE MUCH LESS THAN THOSE USING NO DATA AT ALL

CHARLES BABBAGE *THE EDUCATION INDUSTRY*



BALAMURUGAN SOUNDARARAJ

# ESTIMATING ACTIVITY FROM PASSIVELY COLLECTED DATA

A CASE STUDY OF SMART STREET SENSOR PROJECT

UNIVERSITY COLLEGE LONDON

DOCTOR OF PHILOSOPHY  
DEPARTMENT OF GEOGRAPHY, UCL

I, Balamurugan Soundararaj confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

*Submitted on, April 2019*

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*Dedicated to those who appreciate  $\text{\LaTeX}$  and  
the work of Edward R. Tufte and Donald E. Knuth.*



# *Introduction*

this sample book discusses the design of edward tufte's books<sup>1</sup> and the use of the tufte-book and tufte-handout document classes.

<sup>1</sup> Edward R. Tufte. *The Visual Display of Quantitative Information*. Graphics Press, Cheshire, Connecticut, 2001. ISBN 0-9613921-4-2; Edward R. Tufte. *Envisioning Information*. Graphics Press, Cheshire, Connecticut, 1990. ISBN 0-9613921-1-8; Edward R. Tufte. *Visual Explanations*. Graphics Press, Cheshire, Connecticut, 1997. ISBN 0-9613921-2-6; and Edward R. Tufte. *Beautiful Evidence*. Graphics Press, LLC, first edition, May 2006. ISBN 0-9613921-7-7



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