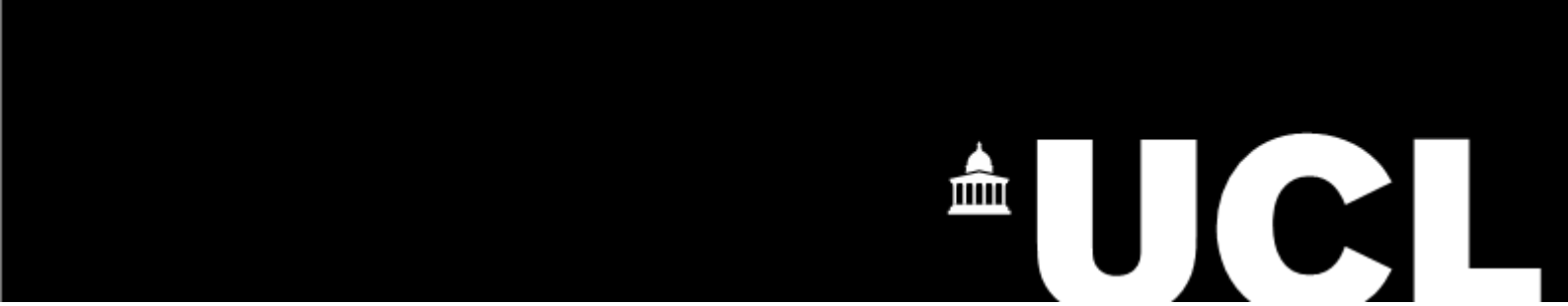

# Machine Learning and Regression Modelling of Dynamic Urban Soundscapes

Andrew James Mitchell

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Institute for Environmental Design and Engineering
University College London (UCL)

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Principal Supervisor: Prof. Jian Kang
Co-Supervisor: Dr. Phil Symonds

# Abstract

# List of Studies

This doctoral thesis is based on the following studies:

**Commentary:** Kang, J., Aletta, F., Oberman, T., **Mitchell, A**., Erfanian, M., Tong, H. (2021). Fuck the decibel. *Nature Sustainability.*

**Protocol:** **Mitchell, A.**, Oberman, T., Aletta, F., Erfanian, M., Kachlicka, M., Lionello, M., & Kang, J. (2020) The Soundscape Indices (SSID) Protocol: A Method for Urban Soundscape Surveys – Questionnaires with Acoustical and Contextual Information. *Applied Sciences, 10* (7), 2397. https://doi.org/10.3390/app10072397

**Study I:** Erfanian, M., **Mitchell, A.**, Aletta, F., & Kang, J. (2020). Psychological Well-being, Age and Gender can Mediate Soundscapes Pleasantness and Eventfulness: A large sample study. *Environmental Psychology.*

**Study II:** Orga, F., **Mitchell, A.**, Freixes, M., Aletta, F., Alsina-Pagès, R. M., & Foraster, M. (2021). Multilevel Annoyance Modelling of Short Environmental Sound Recordings. *Sustainability, 13*(11), Article 11. https://doi.org/10.3390/su13115779

**Study III:** **Mitchell, A.**, Oberman, T., Kachlicka, M., Aletta, F., Lionello, M., Erfanian, M., & Kang, J. (2021). Applied Predictive Soundscape Modelling: A Case Study Investigating Changes from the COVID-19 Lockdown. *JASA.*

**Study IV:** **Mitchell, A.**, Soelitsyo, C., Erfanian, M., Xue, J-H., Oberman, T., Kang, J., & Aletta, F. (2021). A Temporal Convolutional Neural Network for Multi-label Environmental Sound Recognition and Annoyance Detection. *IEEE.*

**Commentary:** **Mitchell, A.**, Aletta, F., Chalabi, Z., & Kang, J. (2021). From Deterministic to Probabilistic Soundscapes: A critical tour around the soundscape circumplex. *JASA-EL.*

# Contents

# List of Figures

# List of Tables

# 1 Introduction

## 1.1 Impacts of Urban Noise on Health and Wellbeing

## 1.2 Current Methods of Assessing and Addressing Urban Noise

## 1.3 Soundscape - Theory and Application

### 1.3.1 Soundscape Descriptors and Indices

(Aletta et al., 2016)

### 1.3.2 The ISO 12913 Standard Series

## 1.4 Environmental Acoustics and Psychoacoustics Analyses

# 2 An Open International Urban Soundscape Database

# Bibliography

Aletta, F., Kang, J., and Axelsson, Ö. (2016). Soundscape descriptors and a conceptual framework for developing predictive soundscape models. *Landscape and Urban Planning*, 149:65–74.