CALL FOR MASTER THESIS

Micromobility as a green solution for urban mobility. Reviewing the impacts of shared e-scooter and e-bikes over climate change and greenhouse emissions.

Project framework:

This MSc thesis is offered within the GEMOTT research group and EVOCLIM research group, within ICTA.

Research Background:

Transport is among the human activities that contribute the most to global emissions. In recent years many cities have promoted the introduction and deployment of shared electric personal mobility vehicles such as e-scooters and e-bikes within their goal to decarbonize the transportation sector. However, the debate on whether these vehicles constitute a net benefit in terms of emissions when compared with traditional modes of transport is still wide open. While significant literature on the subject has attempted to study the issue, efforts have been fragmented and no consensus exists to date on whether these modes can be considered as green and desirable for everyday urban mobility from an environmental perspective.

Aim:

To review the abundant recent literature on the topic using a big systematic literature review framework that can contribute to solve the debate on the green nature of micromobility.

Methods:

The student will be using the structural topic modelling method that are at the intersection of machine learning and natural language processing with the aim to systematically and objectively process large amounts of textual information that can be retrieved from bibliometric databases like Scopus. (S)he will analyze not only the textual (title, abstract, keywords) but also other types of data (year of publication, number of citations, scientific field). The student will be later expected to critically analyze the results using quantitative methods.

This thesis topic will allow the student to learn/improve skills related with literature review, review methods using machine learning and statistical analysis, critical analysis, and scientific writing.

Technical details:

The thesis will be co-supervised by Dr. Ivan Savin and Dr. Oriol Marquet. We expect that a revised version of the MSc Thesis will be submitted to a peer-reviewed journal for publication. The final document can be presented in English.

The type of data involved requires that the student have strong quantitative skills, preferably in R or Python.

If you are interested on writing your MSc thesis on this topic, please contact oriol.marquet@uab.cat