# **ICARUS**

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#### 1 Introduction

- 1.1 Sustainable Development
- 1.2 Development Disparities
- 1.3 Big Data
- 1.3.1 Big Data Analyses
- 1.3.2 Big Data for Sustainability
- 1.3.3 title
- 1.4 Image Classification
- 1.4.1 Deep Neural Networks
- 1.4.2 YOLO & Darkflow
- 1.4.3 title
- 1.4.4 title
- 1.5 Goals of this Study
- 1.5.1 Research Questions

In the following paragraph, research questions based on the goals of this study are formulated. Research questions 1 and 1.1 are directly linked to target indicator #58 of the SDGs. Research question 2 is oriented towards the potential, overall contribution of Big Data for Sustainability.

#### Research Question 1:

Can georeferenced data for indicator #58 of the SDGs be generated using a Deep Neural Network on the Twitter Streaming API?

### Research Question 1.1:

Are these data comparable to conventional data for indicator #58 of the SDGs?

#### Research Question 2:

What are potentials and limitations of Big Data analyses for the monitoring of the SDGs?

### 2 Methods

Introduce Methods by means of a flowchart!

- 2.1 Harvesting of training images
- 2.2 Supervised Classification
- 2.3 Training ICARUS
- 2.4 Validation

Hilbert (2016)

# 3 Results

ALL SEASON ROADS DETECTED USING ICARUS ON TWEETS WITH APPENDED MEDIA AND GEOTAG MAY 12 - JUNE 12 2019, PREDICTION THRESHOLD 0.9

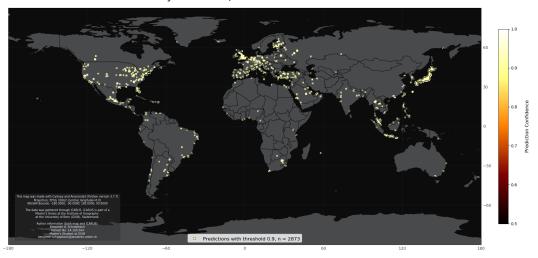


Figure 1: Figure 1: Map of Tweets where ICARUS identified AllSeasonRoads

## 4 Discussion

# 5 Conclusion & Outlook

5.0.1 title

# References

Martin Hilbert. Big Data for Development: A Review of Promises and Challenges. *Development Policy Review*, 34(1):135–174, January 2016. ISSN 1467-7679. doi: 10.1111/dpr.12142.