

# ICARUS

**Lessons Learned from using Image Classification on Big Data to  
estimate an indicator of Sustainable Development**

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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**

## **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**

### 3 Results

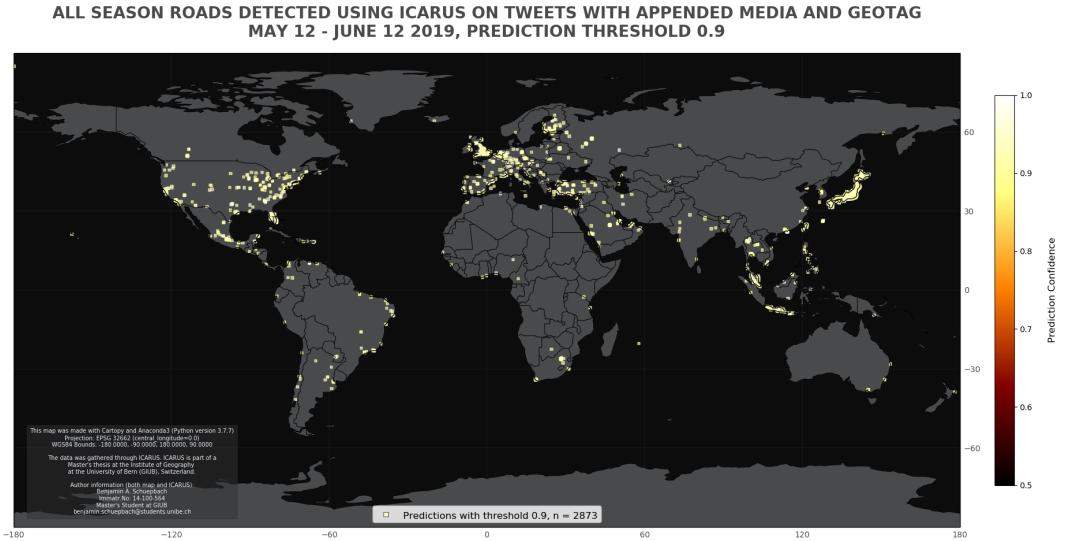


Figure 1: Figure 1: Map of Tweets where ICARUS identified AllSeasonRoads

## 4 Discussion

## **5 Conclusion & Outlook**

### **5.0.1 title**

## References

- [1] Mark Dredze, Michael J. Paul, Shane Bergsma, and Hieu Tran. Carmen: A twitter geolocation system with applications to public health. In *AAAI Workshop on Expanding the Boundaries of Health Informatics Using AI (HIAI)*, pages 20–24, 2013.