**- Haklay M, 2008 - "OpenStreetMap: User-Generated Street Maps"**

It all started with an introduction **- Haklay M, 2008 - "OpenStreetMap: User-Generated Street Maps"**

Three clear topics from the very beginning.

Quality Assessment

collaborative contributing, Contributor Behavior and Activity Analysis

Mapping /generating/extracting sth use OSM data + RS / other data

2008-2011: Foundational Studies on OSM and VGI Quality

1. Quality Assessment and Validation of OSM Data

2008-2011

- Haklay M, 2010 - "How Good is Volunteered Geographical Information? A Comparative Study of OpenStreetMap and Ordnance Survey Datasets"

- Girres JF, 2010 - "Quality Assessment of the French OpenStreetMap Dataset"

- Haklay M, 2010 - "How Many Volunteers Does It Take to Map an Area Well? The Validity of Linus' Law to Volunteered Geographic Information"

2012-2014

- Koukoletsos T, 2012 - "Assessing Data Completeness of VGI Through an Automated Matching Procedure for Linear Data"

Hecht R, 2013 - "Measuring Completeness of Building Footprints in OpenStreetMap Over Space and Time"

- Zielstra D, 2013 - "Assessing the Effect of Data Imports on the Completeness of OpenStreetMap: A United States Case Study"

- Kessler C, 2013 - "Trust as a Proxy Measure for the Quality of Volunteered Geographic Information in the Case of OpenStreetMap"

- Fan HC, 2014 - "Quality Assessment for Building Footprints Data on OpenStreetMap"

- Barron C, 2014 - "A Comprehensive Framework for Intrinsic OpenStreetMap Quality Analysis"

- Forghani M, 2014 - "A Quality Study of the OpenStreetMap Dataset for Tehran"

2015-2017

- Brovelli MA, 2017 - "Towards an Automated Comparison of OpenStreetMap With Authoritative Road Datasets"

- Hochmair HH, 2015 - "Assessing the Completeness of Bicycle Trail and Lane Features in OpenStreetMap for the United States"

- Barrington-Leigh C, 2017 - "The World's User-Generated Road Map Is More Than 80% Complete"

- Antoniou V, 2015 - "Measures and Indicators of VGI Quality : An Overview"

- Dorn H, 2015 - "Quality Evaluation of VGI Using Authoritative Data - A Comparison With Land Use Data in Southern Germany"

- Arsanjani JJ, 2015 - "An Assessment of a Collaborative Mapping Approach for Exploring Land Use Patterns for Several European Metropolises"

2018-2021

- Brovelli MA, 2018 - "A New Method for the Assessment of Spatial Accuracy and Completeness of OpenStreetMap Building Footprints"

- Degrossi LC, 2018 - "A Taxonomy of Quality Assessment Methods for Volunteered and Crowdsourced Geographic Information"

- Zhou Q, 2018 - "Exploring the Relationship Between Density and Completeness of Urban Building Data in OpenStreetMap for Quality Estimation"

1. collaborative contributing, Contributor Behavior and Activity Analysis

**2008-2011**

**- Lin YW, 2011 - "A Qualitative Enquiry into OpenStreetMap Making"**

2012-2014

- Neis P, 2012 - "Analyzing the Contributor Activity of a Volunteered Geographic Information Project - The Case of OpenStreetMap"

4. Vandalism Detection: contributor’s behavior, negative contributors

- Neis P, 2012 - "Towards Automatic Vandalism Detection in OpenStreetMap"

- Mooney P, 2014 - "Analysis of Interaction and Co-Editing Patterns Amongst OpenStreetMap Contributors"

- Budhathoki NR, 2013 - "Motivation for Open Collaboration: Crowd and Community Models and the Case of OpenStreetMap"

**- Mooney P, 2014 - "Has OpenStreetMap a Role in Digital Earth Applications?"**

explores the characteristics of the collaborative, crowd-based, editing of spatial data in OSM and the crowd itself

2015-2017

- Arsanjani JJ, 2015 - "An Exploration of Future Patterns of the Contributions to OpenStreetMap and Development of a Contribution Index"

**- Arsanjani JJ, 2015 - "The Emergence and Evolution of OpenStreetMap: A Cellular Automata Approach"** collaborative contributing

2018-2021

- Anderson J, 2019 - "Corporate Editors in the Evolving Landscape of OpenStreetMap"

1. Mapping /generating/extracting sth use OSM data + RS / other data

2008-2011

Over M, 2010 - "Generating Web-Based 3D City Models from OpenStreetMap: The Current Situation in Germany"

**- Zielstra D, 2011 - "Comparative Study of Pedestrian Accessibility to Transit Stations Using Free and Proprietary Network Data"**

2012-2014

Hagenauer J, 2012 - "Mining Urban Land-Use Patterns from Volunteered Geographic Information by Means of Genetic Algorithms and Artificial Neural Networks"

Arsanjani JJ, 2013 - "Toward Mapping Land-Use Patterns from Volunteered Geographic Information"

- Goetz M, 2013 - "Towards Generating Highly Detailed 3D CityGML Models from OpenStreetMap"

- Bakillah M, 2014 - "Fine-Resolution Population Mapping Using OpenStreetMap Points-of-Interest"

2015-2017

- Fonte CC, 2017 - "Generating Up-To-Date and Detailed Land Use and Land Cover Maps Using OpenStreetMap and GlobeLand30"

- Johnson BA, 2016 - "Integrating OpenStreetMap Crowdsourced Data and Landsat Time Series Imagery for Rapid Land Use/Land Cover (LULC) Mapping: Case Study of the Laguna De Bay Area of the Philippines"

- Liu XJ, 2016 - "Automated Identification and Characterization of Parcels With OpenStreetMap and Points of Interest"

- Schultz M, 2017 - "Open Land Cover from OpenStreetMap and Remote Sensing"

- Kaiser P, 2017 - "Learning Aerial Image Segmentation from Online Maps"

2018-2021

- Vargas-Munoz JE, 2021 - "OpenStreetMap: Challenges and Opportunities in Machine Learning and Remote Sensing"

2013 new topic

1. Tool Development

Ballatore A, 2013 - "Geographic Knowledge Extraction and Semantic Similarity in OpenStreetMap"

- Graser A, 2014 - "Towards an Open Source Analysis Toolbox for Street Network Comparison: Indicators, Tools and Results of a Comparison of OSM and the Official Austrian Reference Graph"

- Boeing G, 2017 - "OSMnx: New Methods for Acquiring, Constructing, Analyzing, and Visualizing Complex Street Networks"

In recent years, a web phenomenon known as Volunteered Geographic Information (VGI) has produced large crowdsourced geographic data sets. OpenStreetMap (OSM), the leading VGI project, aims at building an open-content world map through user contributions. OSM semantics consists of a set of properties (called ‘tags’) describing geographic classes, whose usage is defined by project contributors on a dedicated Wiki website. Because of its simple and open semantic structure, the OSM approach often results in noisy and ambiguous data, limiting its usability for analysis in information retrieval, recommender systems and data mining. Devising a mechanism for computing the semantic similarity of the OSM geographic classes can help alleviate this semantic gap. The contribution of this paper is twofold. It consists of (1) the development of the OSM Semantic Network by means of a web crawler tailored to the OSM Wiki website; this semantic network can be used to compute semantic similarity through co-citation measures, providing a novel semantic tool for OSM and GIS communities; (2) a study of the cognitive plausibility (i.e. the ability to replicate human judgement) of co-citation algorithms when applied to the computation of semantic similarity of geographic concepts. Empirical evidence supports the usage of co-citation algorithms—SimRank showing the highest plausibility—to compute concept similarity in a crowdsourced semantic network.

2015 new topic

1. OSM in Humanitarian and Disaster Response

2015-2017

- Palen L, 2015 - "Success & Scale in a Data-Producing Organization: The Socio-Technical Evolution of OpenStreetMap in Response to Humanitarian Events"

- Poiani TH, 2016 - "Potential of Collaborative Mapping for Disaster Relief: A Case Study of OpenStreetMap in the Nepal Earthquake, 2015"

2018-2021

- Herfort B, 2021 - "The Evolution of Humanitarian Mapping Within the OpenStreetMap Community"