

## Michele Ferretti

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### CURRENT POSITION

**Ph.D. Student** Nov. 2015 - now  
*Geocomputation + Urban Futures research domains, Geography Department, King's College London (United Kingdom)*

Research topic: Geographies of Code: Unpacking the ‘Smart City’ through software engineering ethnographies.  
Advisor: Dr. Jonathan Reades

Moving beyond dichotomous views on smart technologies, my research engages with the actual development of so-called Smart Cities by focusing on the software engineering practices of IBM and Mapbox.

### EDUCATION

**Master of Science in Urban Planning** 2011 - 2013  
*Politecnico di Milano, Milano, Italy*

Thesis: The Death of Distance in the Age of Urban Sensing.  
Advisors: Prof. Philip McCann (Rijksuniversiteit Groningen), Prof. Valeria Fedeli and Prof. Ilaria Mariotti (Politecnico di Milano)  
Final grade: 110/110 cum Laude.

**Postgraduate Course on ‘Sistemi Informativi Territoriali e Governo del Territorio’** 2012  
*Politecnico di Milano, Milano, Italy*

Post-graduate courses on GIS and spatial analysis for territorial governance (fully funded via scholarship award).

**Bachelor of Science in Environmental Science** 2009-2012  
*Universita' degli Studi di Milano-Bicocca, Milano, Italy*

Thesis: "Analisi del consumo di suolo, tramite fotografie aree Visibile-Infrarosso Vicino"  
Land-use classification through Vis-NIR Remote Sensing techniques.  
Advisor: Prof. Roberto Colombo.

### EXPERIENCE

**Visiting (Geo)Data Scientist** Jan. 2018 - March 2018 (expected)  
*FBK - Fondazione Bruno Kessler, Trento, Italy*

Currently working on a Python package to easily integrate OpenStreetMap data into Machine Learning and Urban Computing workflows.

**Research Fellow** May 2017 - Sept. 2017  
*Mapbox*

Embedded with the Cities team, I followed closely the strategy design and technical implementation of "Smart City" products, supporting the team leader and regularly taking part in client meetings, Scrums and project sprints.

**Research Intern** June 2016 - Sept. 2016  
*IBM Research, Dublin, Ireland*

Supervisors: Dr. Francesco Calabrese and Dr. Rahul Nahir  
Data Visualisation of a machine-learning model to predict mass-migration flows in Europe.  
The internship results have also been published in the PKDD paper "A multi-scale approach to data-driven mass migration analysis" (Ahmed, 2016)

**Developer (Geographic Information Systems)** May 2015 - Jul. 2015  
*OpenDot, Milan, Italy*

With a team of designers and engineers I developed a Tangible Mapping Interface for an architecture exhibition. I also had the chance to gain experience in digital fabrication methodologies and to acquire new managerial skills following closely the customer relationship and supervising external contractors.

**Junior Developer (Geographic Information Systems)** June 2014 - May 2015  
*Politecnico di Milano, Milan, Italy*

Developed "Alpinescapes", a web-mapping application for the project "The Alpine Landscape on Wikipedia", using Open Data and an Open Source stack.

**Map Analyst** Jan. 2015 - Apr. 2015  
*AMAT, Milan, Italy*

In a small team from the local OSM community I worked on the alignment and data validation between OpenStreetMap (OSM) and AMAT (Milan's Transit Authority) road network datasets. The work involved an extensive use of tools from the OSM ecosystem.

## PROJECTS

**ACHILLES** Nov. 2017 - now  
*Data Visualisation & Front-end Developer*

ACHILLES is a web-based tool for transportation planning, based on a Multi-Layer Network representation. It allows a non-user expert to rapidly visualise and assess a transport system's resilience to traumatic events such as floods and congestion. It has been awarded 2<sup>nd</sup> place at CIKM'17 - DataSpark Mobility Challenge.

**Invisible Cities** Nov. 2016  
*Developer*

A collaborative creative technology project where a GANN has been trained to translate map tiles and hand-drawn sketches into generative satellite images for the cities of Venice and Los Angeles.

**King's Humanitarian Mappers** Jan. 2016 - now  
*Co-founder & Co-organizer*

Drawing from a larger global movement of *digital humanitarians* together with KCL colleagues I run a bi-weekly *mapping marathons* to help researchers and NGOs in preparedness and response initiatives.

**Maptime! Milan** 2014 - 2016  
*Founder & Organizer*

I started and managed for 2 years the Maptime! meetup chapter in Milan, an open learning

environment for everything related to Geospatial technologies. I curated the meetings' contents, organised workshops' logistics and delivering public talks and tutorials.

## SKILLS

### Programming and Scripting Language

- Python, Javascript (ES5/6/7) + NodeJS, R, SQL Working Knowledge
- C++, Java, Bash Basic Knowledge

### GIS Software, Frameworks & Mapping Libraries

- QGIS, ArcGIS, Postgres/PostGIS, GeoPandas, PySal, OSMNX, TurfJS, MapboxGLJS, LeafletJS Working Knowledge
- GRASS, ENVI Basic Knowledge

## LANGUAGE

- Italian Mother Tongue
- English Professional proficiency
- Spanish Limited working proficiency

## PUBLICATIONS

- ACHILLE: a visual data-driven and network-based tool for transportation planning and simulation; *M.Ferretti, L.Pappalardo, G.Barlacchi and L.Lepri - CIKM'17*
- An Alternative Approach To Model Urban Regional Growth: Integrating Ctl\* Logic And Human Mobility Dynamics In The City Of Wuhan *M.Ferretti, J.C. Afandor - 4<sup>th</sup> DACAS Conference on "Cities as Complex Adaptive Systems"*
- An exploratory analysis of ethnic groups in the city of Milan through mobile phone data; *G.Barlacchi, M.Ferretti, B.Lepri and F.Manfredini - NetMob 2017*
- A multi-scale approach to data-driven mass migration analysis [Work done during IBM's internship]; *M. Ahmed et al. - SoGood Workshop - ECML PKDD 2016*
- Alpinescapes: making the Alpine fringes visible through OpenData and Crowdsourced Cartography; *M.Ferretti and D.Villa - FOSS4G-EU 2016*

## HONOURS AND AWARDS

- 2<sup>nd</sup> Place at the DataSpark Mobility Challenge organized by the International Conference on Information and Knowledge Management (CIKM) - Singapore (Nov. 2017);
- King's Award for Excellence in Innovation and Impact (Feb. 2017);
- The "Professor Sir Richard Trainor" PhD scholarship funding (Oct. 2015);
- Outstanding Thesis Award Stefano Pieracci, XVIII<sup>o</sup> Edition, AISRe (ERSA Italian Chapter), (June 2013);
- "Sistemi Informativi Territoriali e Governo del Territorio" postgraduate course scholarship, POLIMI (2011).

**Willing to travel for work.**

January 20, 2018  
Michele Ferretti

