Mayra Zurbarán

CONTACT INFORMATION	Milan, Italy (willing to relocate)	*Mobile:* +39.3397888114 *E-mail:* may.zurb@gmail.com *WWW:* [LinkedIn](#) *D.O.B.* 23/06/1990

LANGUAGES & CITIZENSHIP — Spanish (Native), English (Fluent), Italian (Advanced)   Colombian and Italian Passports

COMPUTATIONAL SKILLS

Languages: Python, Django, SQL, Java, JavaScript, HTML, PHP, UML, LaTeX, R
Databases: Postgres (+PostGIS extension), MySQL, Oracle
Tools: QGIS, ArcGIS, OpenLayers, GeoServer

INTRODUCTION

Accomplished researcher that managed to build bridges between industry and academia and made valuable contributions to both. Strong cooperation and self-management capabilities were built as a member of an interdisciplinary GIS research group, as well as assertive verbal and written communication skills. Obtained a PhD with an emphasis on geoprivacy and citizen science; modelling social media geo-referenced data to produce geospatial inferences and communicating the research outcomes in journals and international conferences. As a developer, made key contributions to free and open source projects, including authoring the second edition of the PostGIS Cookbook and enabling hotspot analysis functionalities to the QGIS project.

PROFESSIONAL EXPERIENCE

Politecnico di Milano   **Nov 2018 to present**
Research Fellow at the GEOlab (Geomatics and Earth Observation laboratory)

Manipulated spatial big data for pre-processing, modelling, and tuning machine learning classification algorithms for land use mapping.

Universidad del Norte   **Jul 2013 to Nov 2018**
Adjunct Professor & Researcher

Participated in research projects that contributed to the doctoral thesis and taught the courses of Algorithmic Programming I, Algorithmic Programming II, and Data Structures.

- Developed replicable scenarios to gather, analyze, and identify trends with geo-referenced social media data.

- Developed algorithms that enable releasing open data with privacy requirements.

Politecnico di Milano   **Nov 2015 to Nov 2016**
Visiting PhD Student at the GEOlab (Geomatics and Earth Observation laboratory)

Visiting member of the GEOlab sponsored by the awarded Sustain-T grant by Erasmus Mundus.

- Assisted in teaching the course of Geographic Information Systems, and directed a master's project to develop the Hotspot Analysis plugin for QGIS.

- Managed and developed the MIGRATE game application for migration awareness, the game was funded by the awarded MYGEOSS challenge in 2016 by the European Commission.

- Collected and analyzed georeferenced social media data to conduct spatial autocorrelation studies in Italian regions.

IT Research & Consulting   Sep 2011 to Aug 2012
Junior Developer

Developed the eFranco platform using the django framework. eFranco is the main software used by the free trade zone company 'Zona Franca de Barranquilla', in which foreign business can operate with no tax obligation.

Carbones del Cerrejon   Jan 2010 to Jul 2010
Intern at Materials & Services Department

Assisted in the design and management of the balanced scorecard for the department, quantifying business goals through data analysis.

SELECTED
PUBLICATIONS

Zurbarán, M., Wightman, P., Oxoli, D., Brovelli, M., Iliffe, M., Jimeno, M., & Salazar, A. NRand-K: Minimizing the Impact of Location Obfuscation in Spatial Analysis. *Transactions in GIS (accepted for publication)*

Zurbarán, M., Wightman, P., Paolo, C., Mather, S. V., Kraft, T. J., & Park, B. (2018). PostGIS Cookbook (Second Edition). Packt Publishing Limited.

Wightman, P., & **Zurbarán, M.** (2018). An Initial Evaluation of the Impact of Location Obfuscation Mechanisms on Geospatial Analysis. In S. V Ukkusuri & C. Yang (Eds.), *Transportation Analytics in the Era of Big Data* (p. 28). Springer International Publishing.

Cervantes-Henrquez, M. L., Acosta-Lpez, J. E., Martnez-Banfi, M. L., Vélez, J. I., Mejía-Segura, E., Lozano-Gutiérrez, S. G., Sánchez-Rojas, M. **Zurbarán, M. A.**, Zurek, E. E., Arcos-Burgos, M., Pineda, D. A., & Puentes-Rozo, P. J. (2018). ADHD Endophenotypes in Caribbean Families. *Journal of Attention Disorders*.

Brovelli, M. A., Minghini, M., Kilsedar, C. E., **Zurbarán, M.**, Aiello, M., & Gianinetto, M. (2017). Migrate: A FOSS web mapping application for educating and raising awareness about migration flows in Europe. In *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives* (Vol. 42, pp. 51-55).

Oxoli, D., Prestifilippo, G., Bertocchi, D., & **Zurbarán, M.** (2017). Enabling Spatial Autocorrelation Mapping in QGIS: The Hotspot Analysis Plugin. *Geoingegneria Ambientale E Mineraria*, 151(2), 45-50.

Brovelli, M. A., Oxoli, D., & **Zurbarán, M. A.** (2016). Sensing Slow Mobility and Interesting Locations for Lombardy Region (Italy): A Case Study Using Pointwise Geolocated Open Data. In *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - IS-PRS Archives* (Vol. 41, pp. 603-607).

Zurbarán, M., Avila, K., Wightman, P., & Fernandez, M. (2015). Near-Rand: Noise-based Location Obfuscation Based on Random Neighboring Points. In IEEE Latin America Transactions (Vol. 13, pp. 3661-3667).

Wightman, P. M., **Zurbarán, M.**, Rodríguez, M., & Labrador, M. A. (2013). MaPIR: Mapping-Based Private Information Retrieval for Location Privacy in LBISs. In Proceedings - Conference on Local Computer Networks, LCN (pp. 964-971).

	2016	MYGEOSS Challenge by the European Commission
	2015	Sustain-T project - Technologies for Sustainable Development by Erasmus Mundus
GRANTS & AWARDS	**2013**	PhD Scholarship by Universidad del Norte
	2012	Young Researcher by Colciencias

EDUCATION

Universidad del Norte, Barranquilla, Colombia   **2013 to 2018**
Ph.D. in Systems Engineering & Computer Science, cum laude
Thesis Topic: *Privacy Protection in Location Based Services*. Examined emergent location based services to provide privacy alternatives for geodata management. Surveyed and developed privacy techniques while focusing on ensuring data usability for geospatial analysis.

                                                              2005 to 2010
BS.c. Systems Engineering & Computer Science
Graduated as Distinguished Student