

# Sandro Sousa

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## Education

- 2017–2021 **PhD in Mathematical Sciences**, *Queen Mary University of London*, London, UK.
- 2014–2016 **MSc in Complex Systems Modelling**, *University of São Paulo*, São Paulo, BR.
- 2012–2013 **Postgraduation in Information Management and Business Intelligence**, *Business School São Paulo*, São Paulo, BR.
- 2006–2008 **Graduation in Management of Computer Networks**, *Inforium College of Technology*, Belo Horizonte, BR.

## Research Experience

- Sep 2017 – Present **PhD Research**, *Spatial distribution patterns of segregation*, Queen Mary University of London, London, UK.  
PhD student in the School of Mathematical Sciences with concentration in modelling socio-economic segregation with random walks, looking at spatial distribution, scale patterns and empirical data sets.
- May 2016 – May 2017 **Research Project**, *RESOLUTION (RESilient Systems fOr Land Use TransportatION)*, University of São Paulo, BR, University College London, UK.  
Research Associate in a project between Brazilian and British academics funded by the ESRC and FAPESP comparing London and São Paulo in respect to social segregation and transport accessibility. Responsible for georeferenced data analysis using Python, development of scripts to compute spatial segregation measures and deployment as a QGIS plugin as well as contribution to the development of an Agent Based Model aimed to explores the influence of accessibility to segregation.
- Feb 2014 – Jun 2016 **Dissertation**, *Study of properties and robustness of the public transport network of São Paulo*, University of São Paulo, São Paulo, BR.  
Research in the field of Complex Systems and Complex Networks. MSc research project using complex networks to evaluate topology changes in the urban public transport system of São Paulo. The system was modelled as a coupled network using different distances radii to group nearby stops and provide a multi scalar setup to test the robustness against simulated attacks. The simulation was performed by randomly, deterministically and preferentially targeting nodes and links. The method showed to be useful as a public policy tool, working as a proxy to user's willingness to get around the nearest point to access transportation.

## Work Experience

- Dec 2011 – Jun 2014 **Business Intelligence Architect**, *Braskem*, São Paulo, BR, Chemical and Plastics.  
Business Intelligence Architect responsible for design and development of data solutions on SAP BW/BO as well as project management, data architecture, governance policies, housekeeping, study of new solutions and technologies. Expert in analytical reporting, enterprise data warehousing, LSA architecture, modelling, administration, ETL and security. Working on projects with full life cycle to support Supplies, Sales, and Finance areas.

- Oct 2010 – **SAP BI BW Consultant**, *Accenture*, São Paulo, BR, Management Consulting.  
 Dec 2011 Business Intelligence Consultant expert in SAP BW/BO platform. Responsible for development of Business Intelligence solutions including enterprise data warehousing, modelling, administration, deploy, process chain, extraction, transform and load of data. Development of management reports using Business Explorer, analysis of client's processes and reports mapping.
- Feb 2010 – **Business Consultant**, *DBM Systems*, São Paulo, BR, IT and Services.  
 Oct 2010 Business Consultant with expertise in ERP implementation on modules of Finance, Purchasing, Sales, Inventory, Project Management, Reports Generator (PL/SQL) as well as integration of legacy Systems and SQL Server Database Administration. Expert on Totvs Protheus and RM systems involved in activities of business process mapping, development of solutions, identification of possible improvements and documentation.
- Aug 2009 – **Business Analyst**, *Totvs*, Maringá, BR, Computer Software.  
 Feb 2010 Business Analyst working on ERP implementation in modules of Finance, Purchasing, Sales, Inventory, Project Management and Reports Generator. Responsible for mapping client's processes, analysis of improvements, documentation and presentation of commercial proposal. Involvement in project's full life cycle, including implementation, system configuration, training programs, development of analytical reports in PL/SQL and SQL Server Database Administration.
- Jul 2008 – **ERP Systems support Intern**, *MRV Engenharia*, Belo Horizonte, BR, Civil Engineering.  
 Apr 2009 Technical support team member for ERP systems (Sales, Finance and Project Management) and legacy softwares. Collaboration in project development and migration from Totvs Corpore RM to SAP R3 platform on approval processes and testing. Responsible for first level support for SAP Sales module and Microsoft Dynamics CRM.

## Computer skills

- Advanced Python, Git/GitHub,  $\text{\LaTeX}$   
 Intermediate QGIS, OS X, SQL Database, UML, Linux  
 Basic R language, Gephi, Cytoscape, Netlogo

## Languages

- Portuguese Native Speaker  
 English Fluent

## Research Interests

- Complex systems, complex networks, collective behaviour, segregation dynamics, spatial distribution of population, scale patterns, urban transportation and computational models.