David De Ridder, PhD

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- **Strong experience in data & analytics** : Nine years of experience in data management (Python, SQL), visualisation (Matplotlib, Seaborn, Plotly, Tableau…), analysis (Python & R), and modelling (scikit-learn, XGBoost, TensorFlow), always focused on innovative yet practical applications.
- **Business user collaboration**: Demonstrated experience working in different contexts and teams with a client-focused approach to understand their data needs, drive project success and deliver bespoke solutions.
- **Communication and teamwork skills**: French native and fluent in English, with excellent interpersonal and presentation skills, and a strong appreciation for leadership and teamwork.
- **Analytical mindset and proactive approach**: Fueled by curiosity and a keen attention to detail, I excel in breaking down complex problems and proactively delivering innovative, data-driven solutions.

Professional Experience

University of Geneva & EPFL | Geneva, CH

Senior Research Associate 2022.11 – Current

- Conducting a large project evaluating traditional and alternative medicine's cost-effectiveness in collaboration with Groupe Mutuel and supported by the Fondation Leenaards using space-time modelling, causal inference and spatial statistics (Python and R).
- Led a consulting project for the Fondation genevoise pour le dépistage du cancer to improve participation in the breast cancer screening program, facilitating a strategic reassessment of their future communication campaigns and recruitment.
- Directing a team of 5 in developing a digital dashboard for the Specchio study (a large digital population-based study), orchestrating full-stack Python development (Django, SQLite) and web design (CSS, HTML).

Postdoctoral Fellow 2021.07 – 2022.10

- Led a large COVID-19 project, underlining air pollution’s role at detailed spatial scale, while offering insights into epidemic trends and diffusion dynamics using Google Earth Engine, remote sensing and spatially explicit machine learning.
- Successfully secured funding (CHF 150,000) for a project evaluating integrative medicine's efficacy in collaboration with a large Swiss health insurance group.
- Conducted a strategic mandate for the Direction Générale de la Cohésion Sociale of the Canton of Vaud, focusing on optimizing the adequation between demand and supply in social services.

PhD candidate 2017.12 – 2021.06

- Conducted multiple projects on the geospatial clustering of health risk factors and their determinants to enable targeted and informed public health interventions.
- Led three COVID-19 projects, showcasing the potential of geospatial approaches in enhancing epidemiological surveillance (2 publications including one in The Lancet Digital Health, multiple press releases and TV coverage).
- Key contributor in the decision-making and design process for the @choum project (CHF 250,000), a digital health app for COVID-19 symptom reporting and early outbreak detection (8,000+ downloads in Geneva, 1 publication).
- Led a consulting project for the Canton of Geneva's Health Department during the COVID-19 vaccination campaign, successfully identifying high-risk groups to enhance the DGS's vaccination strategy optimization.

Réseau Delta | Geneva, CH

Data scientist 2019.02 – Current

- Created innovative data feedback solutions to improve the quality and efficiency of healthcare practices for over 250,000 patients and 1,000 physicians using full-stack Python development (SQL, Tableau, Streamlit, CSS, HTML).
- Led the integration of GIS and spatial analyses into Réseau Delta’s decision-making using Python (i.e. geopandas, PySAL, rasterio) and PostGIS.
- Implementation of diverse machine learning techniques for patient classification and profiling using health insurance claims data.

Harvard Medical School - Dana Farber Cancer Institute | Boston, MA, USA

Bioinformatics technician (CCSB | Vidal Lab) 2016.03 – 2017.11

- Performed data analyses (protein network analyses, community detection, DNA sequencing,…) for the human interactome project “HuRI” (Nature, 2020) and yeast interactome project “YeRI”.

Graduate student researcher (CCSB | Vidal Lab) 2015.03 – 2015.09

- Thesis “Analysis of Interactome Perturbations Underlying Human Diseases”. Identified 173 previously unknown human protein interactions involved in rare human diseases.

Main skills

- **Project Management** : fund acquisition, public speaking, leadership, negotiation and problem solving.
- **Programming Languages** : Proficient in Python and R; familiar with HTML and CSS.
- **Data Science and Spatial Data Analysis** : Pandas, Scikit-learn, TensorFlow, XGBoost, Statsmodels.
- **Data Management** : SQL, PostGIS.
- **Data Visualization, web & BI Tools** : Tableau, Django, Streamlit, Dash, Matplotlib, Seaborn, Plotly, Altair.
- **Advanced Statistical Techniques** : Causal inference, Machine learning, Clustering, Network analysis.
- **GIS and remote sensing** : Geopandas, Rasterio, Folium, Leaflet, Shapely, Fiona, QGIS, ArcGIS, Google Earth Engine.

Volunteering & outreach

Graduate Teaching Assistant – EPFL School of Environmental Engineering (ENAC)

- Co-instructed the "Exploratory Spatial Data Analysis" graduate course to 40+ students at EPFL and instructed multiple workshops, CAS and MAS, managing up to 80 students.

Volunteer Consulting project – Direction Générale de la Santé (DGS)

- Identified areas of the canton combining high-risk populations and poor COVID-19 vaccination uptake to improve the DGS's vaccination strategy.

Volunteer Data Science and GIS Consultant – EPFL EssentialTech

- Optimized the location allocation for an innovative personal protective equipment (PPE) using accessibility analyses and spatial modelling.

Education

PhD Life Sciences | University of Geneva, CH 2017 – 2021

- 20 articles published in peer-reviewed journals (inc. Nature, Nature Communications, The Lancet Digital Health) including 6 as first author.

MEng Bioengineering | University of Liège, Belgium 2013 – 2015

- Mobility scholarships for study and research exchanges at Universitat Politècnica de València and Harvard Medical School (total EUR 6000).

BEng Bioengineering | Université Libre de Bruxelles, Belgium 2010 – 2013

Certificates

Certificate in Public health – Swiss Society of Public Health (SSPH+) 2022
Causal Inference & Diagrams – HarvardX 2020
Entrepreneurship & Innovation - Harvard Extension School 2016
Computer Science and Programming using Python - MIT (edX) 2016
Psychological Components of Negotiation - UCL (edX) 2016

Personal Interests

Triathlon, photography (incl. contract with Geneva Tourism), rock climbing, trail running, skiing.