Alexander Tedeschi

GIS Specialist | Data Scientist

Data Scientist with 5+ years of experience building and improving geospatial products. Skilled in A/B testing, machine learning, large-scale data processing, and web development using geospatial libraries/APIs. Highly motivated with a strong background in statistics and quantitative geography.

Education

2014-09 - 2016-03

MSc: Geoinformatics

University of Münster - Germany

2010-09 - 2013-05

MA: Regional Studies of Russia & Central Asia

Harvard University - Cambridge, MA

2004-09 - 2008-01

BA: History & Global Studies

St. Lawrence University - Canton, NY

Work History

2020-12 - Current

Senior Data Scientist

Rystad Energy, Oslo, Norway

Led spatial modeling and algorithmic development for 3 AIS-data applications, .e.g. visit detection and vessel path prediction using Markov chains. Engineered data pipelines in Airflow for large-scale processing of spatial data. Mentored junior members of the Data & Insights team.

2018-07 - 2020-07

Data Scientist

Uber, Brooklyn, NY

Designed and ran 5 controlled experiments for map-based products in the Uber app that helped boost e-bike utilization by 50%. Extracted insights to improve user engagement. Scaled analytical capabilities using geo datasets from 20 cities worldwide. Developed ETL pipelines. Built advanced analytical dashboards, and prototyped a computer vision application to verify parking.

2017-01 - 2018-07

GIS Developer / Junior Data Scientist

JUMP Bikes, Brooklyn, NY

Developed real-time GIS applications for field operations and led data reporting in 10+ cities. Integrated demand prediction models into web-based mapping applications. Created data visualizations for the business development team. Conducted quality checks on external data sources.

Contact

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Skills

Experimentation ●●●●● Excellent

Machine learning ●●●●● Excellent

Data engineering ●●●●● Excellent

Statistical modeling ●●●●● Excellent

GIS ●●●●● Excellent

Data modeling ●●●●○ Very Good

Web development ●●●○○ Good

Languages

2015-12 - 2018-06

Contributing Researcher

Urbica, Moscow, Russia
Assisted in the design and implementation of 7 mapping products for clients in Russia using Mapbox libraries. Built interactive visualizations, and led 3 GIS workshops for students and colleagues.

2015-09 - 2016-07

GIS Analyst

Strelka KB, Moscow, Russia
Managed the collection, storage ,and processing of all geodata for *My Street*, a large scale urban renewal project in Moscow. Drafted and printed over 50 thematic maps covering 12 Moscow districts Served as the principal cartographer on the team. Trained junior staff in R.

2015-09 - 2016-02

Cartographic Intern

National Geographic, Moscow, Russia
Designed 3 infographics published in June '16 edition.

2013-08 - 2014-05

Research Assistant

Harvard Center For Geographic Analysis, Cambridge, MA
Developed a geospatial network model of the Russian empire using by integrating historical sources with GIS.

2011-07 - 2012-07

Research Fellow

NSEP, Kazan Federal University, Russia
Studied the spatial-temporal patterns of conflict dynamics a in the North Caucasus that occurred during the Second Chechen War (1999-2009).

Research

Alfa Fellowship, 2015-2016 Cultural Vistas
Erasmus Mundus Scholarship (EMJMD), 2014-2016 EC
USGIF Graduate Scholarship, 2014 USGIS
Boren Fellowship, 2011-2012 US Department of State
Foreign Language and Area Studies Fellowship, 2010-11, 2012-13 US Department of Education
Fulbright Scholarship, 2008-2009 US Department of State

Volunteering

Erasmus Mundus Association, Remote, 2020
Lead developer of the first Erasmus Mundus Course Map
American Red Cross, Remote, 2020 -2022
Missing Maps - OpenStreetMap Data Quality Volunteer
American Red Cross, Remote, 2022-present
MapSwipe- GIS Data Analyst

English
●●●●● Excellent

Russian
●●●●● Excellent

German
●●●●○ Very Good

Italian
●○○○○ Basic

Software

Python
●●●●● Excellent

R
●●●●● Excellent

SQL
●●●●● Excellent

Adobe Illustrator
●●●●○ Very Good

Tableau
●●●●○ Very Good

Javascript
●●●○○ Good

ALEXANDER TEDESCHI | PORTFOLIO

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IIEP-UNESCO

Issue Paper proposal, UNICEF -2020

Offers a geospatial methodology to support planners and managers in Member States in using geospatial data in combination with education statistics, in ways that can inform decision-making on the responsiveness of the education system to the needs of local communities.

MEXICO RX

Data science challenge, Premise Data – 2020

Critical facilities may not be easily discoverable with modern search engines or mapping services. The current case study is from a recent crowdsourcing campaign in Mexico City, where contributors were asked to find and document pharmacies. Data from contributor submissions were analyzed in order to best approximate unique locations of pharmacies and to understand surrounding features through text extraction. This solution combined OCR and several clustering algorithms – PAM + Levenshtein Distance for clustering texts, and DBSCAN for spatial clustering – to predict single pharmacy locations.

FUBAR

Data Scientist, Uber – 2019

Dockless bike sharing systems face the intractable problem of enforcing orderly user parking in dense urban spaces. We thought it could it be solved with the help of machine learning. The project was designed and developed through the team effort of myself and Krys Czarnecki, both participants in the 3-month Data Science Retreat (DSR) based in Berlin. Fubar is a prototypical computer vision program that combines transfer learning with YOLO object detection to solve the classic problem of improper parking.

JUMP Operations

GIS Developer, JUMP -2018

Under the traditional bikeshare model, people park bikes in designated docks around the city. When ushering in dockless bikes, it's a double-edged sword – consumers have the flexibility to park bikes where it's most convenient, but without a dock, they need hyper- granular location information to find a bike. This map-based visualization is the product of my work as the lead GIS developer at JUMP

The History of GULAG

Researcher, Urbica - 2017

Interactive map and information portal that displays the historical development of the GULAG labor camps from inception to end of operation. In cooperation with the research department and the curatorial and technical team of the museum, we have created a product where high technology, history, and social significance are intertwined.

Erasmus Mundus Association

Volunteer cartographer, 2017 – EMA

Created the first geospatial database and map-based search tool for Erasmus Mundus graduate courses and locations using the Mapbox GL JS library.

Rebalancing Citibike

Visualization of Master's thesis findings in collaboration with Urbica – 2016

Visualization of Master's coursework in Geospatial Technologies using Mapbox GL and D3. This study analyzes over 10 million trips taken in New York City between 2012-15 and focuses on a few of the most intractable problems that any robust bikeshare network faces: rebalancing stations so that they are neither full nor empty, and bike availability. See Medium post.

Circle of Life

Intern, National Geographic (Russia) - 2016

This article focused on the reindeer migration in the Taimyr Peninsula. Migration is a difficult task. Behind every new migration cycle there are new obstacles: turbulent rivers, inclement weather, and predators. Far more dangerous, however is for reindeer to stop moving. These roamers of the north have been able to outlive their contemporaries – mammoths and wooly rhinoceros – in part due to their constant movement.

Using R to Map Crime Density in Boston

Master's student, Universidade NOVA de Lisboa - 2015

As a social phenomenon, crime has intrinsic geographic qualities. At the beginning of the 2000s, the city of Boston experienced a significant uptick in crime rates relative to the previous decade. The current study serves to both update and supplement the geographical component of crime analysis in Boston by making use of the demographic data from the 2010 U.S. Census and a comprehensive crime incident database.

Shrinking of Lake Urmia, Iran

Master's student – Universidade NOVA de Lisboa - 2014

At its full extent, Lake Urmia is the sixth largest saltwater lake on earth with a surface of approximately 5,200 km2. The lake has been rapidly shrinking for the past several decades due to drought, climate change, and poor water resource management. The objective of this study is to determine the extent of land cover change in the last three decades.

Topography of Terror

GIS intern, NextGIS and Memorial – 2014

Topography of Terror serves to inform people today – whether amateur historians, victims' relatives, or simply citizens who want to know the truth – by mapping the locations of sites associated with state repression.

Imperiia

Research Assistant, Harvard University Department of History - 2013

This research project, directed by Dr. Kelly O' Neill under the auspices of Harvard's Digital Teaching Fellows (DiTF) program, makes available a series of annotated datasets and historical maps related to the physical infrastructure, demographics, culture, and economy of the tsarist state.