ALEXANDER TEDESCHI

Oslo, Norway
Mobile: +47 46703110
alexander.j.tedeschi@gmail.com

EDUCATION

M.Sc., Geospatial Technologies, Universidade Nova de Lisboa, 2016
Concentration: Geospatial data mining, Clustering algorithms
Thesis: *Rebalancing Citi Bike: Mapping bike share redistribution in New York*
Thesis Advisors: Roberto Henriques, Ph.D., Edzer Pebesma, Ph.D., Mateu Jorge, Ph.D.

M.A., Regional Studies of Russia, Eastern Europe, and Central Asia Harvard University, 2013
Concentrations: Quantitative Political Science, GIS, Sociology of the Post-Soviet sphere
Thesis: *Nation-building in Contemporary Russia*
Thesis Advisor: Laura Adams, Ph.D.

B.A, Global Studies, History, St. Lawrence University, 2008
Danish Institute for Study Abroad (DIS), Copenhagen, Denmark, 2006
Thesis: *Muslims in the West: Dominant Discourses from the European Perspective.*
Thesis Advisor: John Collins, Ph.D.

RELEVANT SKILLS

Programming: Proficiency in Python, R, SQL, NoSQL, Git, Javascript

Applications: Proficiency in GIS platforms (QGIS, ArcGIS, Mapbox Studio), PostgreSQL + PostGIS, Airflow Scikit-learn, PyTorch, TensorFlow, Jupyter, RStudio, PgAdmin, OpenDataKit, Django

Languages: Russian (Fluent); German (Advanced); Ukrainian (basic); Poruguese (basic); French (basic)

WORK EXPERIENCE

Senior Data Scientist, Rystad Energy, 12/2020-present
Led and trained 5 junior data scientists in the development of microservices for maritime vessel tracking and analysis. Engineered data pipelines in Airflow for large-scale processing of spatial data in PostgresQL. Managed scripts to produce analytical products and cartographic representations of maritime trade.

Data Scientist II, Uber Technologies, 03/2019 - 06/2020
Designed and executed controlled experiments in the Uber app. Extracted actionable insights from millions of rows of IoT data to improve user experience and vehicle reliability. Built time-series models to anticipate supply and demand. Wrote ETL pipelines in Python to improve data analysis and synchronization.

Data Scientist, Uber Technologies, 07/2018 - 03/2019
Built automated reporting tools and APIs for data compliance with departments of transportation in 10+ cities. Tested and deployed supply/demand predictive models. Led the migration of JUMP databases into the Uber ecosystem. Developed dashboards to monitor performance and trained 10 junior staff members.

GIS Developer, JUMP Bikes, 01/2017- 07/2018
Developed real-time geospatial applications for field operations using the Django framework and led data reporting for compliance. Analyzed trip data, commuting patterns, and created data visualizations for business development purposes. Trained 2 junior staff members.

GIS Analyst, Strelka KB, 09/2015 - 07/2016
Managed the storage and processing of geodata for *MyStreet*, a large-scale urban renewal project in Moscow. Managed and mentored a team of interns to create workflows for processing, storing, and analyzing urban spatial data using Python and PostGIS. Conducted GIS training sessions for colleagues.

Contributing Researcher, Urbica, 12/2015-06/2018
Analyzed commuter data from the Moscow department of transportation, built interactive visualizations using d3 and Mapbox GL JS, contributed to R&D and translation on a variety of urban data projects

Cartographic Intern, National Geographic Russia, 09/2015-02/2016
Designed 2 infographics published in the June 2016 issue.

GIS Intern, NextGIS, 07/2014 - 12/2014
Geocoded over 10 thousand historical addresses of gulag victims using databases of old and new street names. Provided consultation to the Russian human rights NGO Memorial on GIS.

Research Assistant, Harvard Center for Geographic Analysis, 09/2013-05/2014
In collaboration with Prof Kelly O'Neill, developed a geospatial network model of transportation in the Russian Empire by integrating historical sources with GIS software

Resident Director, American Councils for International Education, 05/2013-08/2013
Administered the State Department's Critical Language Scholarship Program in Kazan, Russia

RESEARCH EXPERIENCE

Fulbright Scholarship, Kazan Federal University, 2008-2009
Project: "Investigating the Islamic Revival in post-Soviet Russia through the Muslim Press"
- Intensively studied the Russian language for 20 hours per week
- Surveyed 100 students at the Russian Islamic University about religiosity and periodical preference
- Conducted interviews with representatives of Islamic publishing houses

Boren Fellowship, Kazan Federal University, 07/2011-07/2012
Thesis Research: "Negotiating National Identity in Russia"
- Surveyed public opinion of various social groups about moral education in Russian schools
- Carried out semi-structured interviews with 25 local political and religious figures
- Presented results of fieldwork to a panel of ethnographers at the Russian Academy of Sciences

VOLUNTEERING

Red Cross, Remote, 2020 - present
OpenStreetMap (OSM) Data Quality Volunteer

Data Science Retreat (DSR), Berlin, 2019
Taught 2-day course on core concepts in Geospatial Data Science

GRANTS AND FELLOWSHIPS

- Alfa Fellowship, Moscow, (Cultural Vistas, 2015-2016)
- Erasmus Mundus Scholarship EMJMD (European Commission, 2014-2016)
- USGIS Graduate Scholarship (US Geospatial Intelligence Foundation, 2014)
- Boren Fellowship, Kazan Federal University (US Department of State, 2011-2012)
- Foreign Language and Area Studies Fellowship (US Department of Education, 2010-11, 2012-13)
- Fulbright Scholarship, Kazan Federal University (US Department of State, 2008-2009)
- 100 Projects for Peace (Kathryn Wasserman Davis Foundation, 2007)

ALEXANDER TEDESCHI | PORTFOLIO

Brooklyn, NY | 518-928-1954 | sasha.tedeschi@gmail.com

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.