

Gizelle Cota

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EDUCATION

Saint Louis University

Master of Science, Geographic Information Sciences

St Louis, USA

2021

Exchange Program at Saint Louis University

2019

Saint Xavier's College (Autonomous), Mumbai University

Mumbai, India

Bachelor of Science, Geology with Honors in Physics

2018

WORK EXPERIENCE

Geospatial Data Scientist, Taylor Geospatial Institute

05/2023 - present

St Louis, USA

- Assisted researchers with incorporating geospatial datasets in their research, creating charts summarizing results and presenting to stakeholders.
- Generated interest in using geospatial best practices while developing a mobile and web application focusing on spatial humanities.
- Utilized Planet APIs to download imagery data for researchers as well as to manage usage across 8 consortium institutions.
- Analyzed LiDAR and multispectral raster datasets, overlaid over related vector datasets and produced charts and maps that were then presented to stakeholders.
- Utilizing Survey123 to create intake surveys for tracking data requests to the Data Service team as well as track the drone flights during field collection season.
- QC/QA of various imagery datasets derived from unmanned aerial platforms, including but not limited to hyperspectral and thermal datasets.

GIS Analyst, Saint Louis Development Corporation (SLDC)

02/2022 - 04/2023

St Louis, USA

- Manipulating existing data to determine Parcel Ownership within the City, by merging multiple datasets and creating workflows to ensure a dynamic dataset.
- Utilizing geospatial tools to quantify the quality of Commercial Corridors within the city.
- Leveraging ESRI technology to create an ARPA (American Rescue Plan Act) transparency portal.
- Creating and implementing workflows for repetitive tasks; Using model builder to automate data updates.
- Creating a feature layer schema for tracking development projects and their attributes.
- Managing data on an ArcGIS Enterprise Server; querying data on the SQL Server.
- Maintaining and creating web applications and maps for both internal and external use.
- Maintaining and creating GIS datasets for internal and external stakeholders.

GIS Technical Specialist, Colorado College

11/2021 - 01/2022

Colorado Springs, USA

- Assisting students with their research projects; assisted faculty with their GIS applications.
- Developing and teaching the Introduction to GIS course; graded final projects and papers.
- Responsible for QC/QA of vector datasets.

Student Research Worker, Saint Louis University

11/2019 - 08/2021

St Louis, USA

- Creation of multiple teaching labs.
- Creation of a GIS data repository and an open-source web application for the purpose of resource distribution.
- Creation of False Color False Visualizations for multiple locations within Missouri.
- Responsible for hyperspectral data collection using RS-3500 Spectral Evolution spectroradiometer of soybeans
- In-charge of creating COVID-19 related maps, graphics and visualizations for St. Louis region, Missouri.
- DEM (Digital Elevation Model) creation using LiDAR and InSAR data.
- Summarizing GIS undergraduate and doctoral degree programs within the US.
- ROI (Region of Interest) creation for fellow researchers.
- Responsible for creating accurate boundary polygons that were used by fellow researchers in their regressive models.
- Completed literature various reviews on agricultural topics that benefited fellow researchers.

Lead Geospatial Intern, Open Source Environmental Security

01/2019 - 05/2019

St Louis, USA

- Led the geospatial analysis for combating wildlife trafficking efforts for the protection of African Elephant in Dzanga Sangha Protected Area in Central African Republic using ArcGIS products
- Analysed poaching in relation to environmental factors.
- Analysed GPS collar data to determine elephant movement patterns; unique patterns around a poaching event were seen.
- Created surveys using Survey123 to aid in daily field data collection by the rangers.
- Uploaded and maintained data to Online GIS portal; performed relevant analyses and created informative maps.

RELATED EXPERIENCE

Land Use Land Cover map, Betampona Nature Reserve

06/2020 - 08/2021

Madagascar (Remote)

- Creation of a Land Cover map for forest conservation using machine learning and deep learning algorithms.
- Compared various pixel-based algorithms with deep learning methods through rigorous scientific hypothesis testing.
- Utilized ArcGIS's and ENVI's deep learning module.
- Creation of maps and graphs to support results.
- Temporal Change analysis through the comparison of results with 2010 Land Cover maps through a workflow model.
- Understanding of Human Geography around the reserve.
- Documented stages of the project.
- Created training materials related to this work

Vaquita Hackathon, Sea of Cortez

12/2020

(Remote)

- Geospatial analytics and automation through data mining supplemented with a systematic review of all variables involved in the illegal totoaba trade that endangers both marine species- the totoaba and the vaquita- using ArcGIS Products.
- Presentation of background, analysis, findings, and recommendations via a Story Map.

GeoResolution 2019, Saint Louis University

04/2019

USA

- Presented my research at the first geospatial conference hosted by SLU and NGA.

Field Tutor, Mumbai

03/2018

India

08/2017

08/2016

- Taught basic geologic concepts to juniors while on field work.

Parivartan Kendra, Mumbai

09/2015 - 12/2015

India

- Taught school children at a local NGO, Parivartan Kendra, increasing their understanding of basic and common concepts.

PUBLICATIONS

Sagan, V., Bhadra, S., and **Cota, G.** Forest Conservation with AI. (2021). In Sagan (ed), GeoAI for Everyone, <https://github.com/MissouriView/Forest-Conservation-with-AI>

Cota, G., Sagan, V., Maimaitjiang, M., and Freeman, K. (2021). Forest Conservation with Deep Learning: A Deeper Understanding of Human Geography around the Betampona Nature Reserve, Madagascar. *Remote Sensing*, 13 (17), 3495.

SKILLS

Geospatial Software: ArcGIS products (ArcMap, ArcGIS Pro, Survey123, ArcGIS Online, Dashboard, Story Maps, Insights, Enterprise), ENVI, Pix4D

Open-Source Geospatial Software: QGIS, Unfolded studio, Leaflet, Google Earth Engine (GEE)

Other Softwares: Microsoft Office, Canva, Jupyter Notebook, Google Colab, R-Studio, Stata

Coding languages: R, Python (for Geovisualization, Machine Learning, Deep Learning, Web Mapping), SQL

Python packages: ArcPy, arcgis.learn, Scikit-Image, matplotlib.pyplot, geopandas, NumPy, Pandas, Scikit-Learn, TensorFlow

TRAINING

GIS for Climate Action, ESRI MOOC	12/2023
Deploying and Maintaining a Multi-User Geodatabase, ESRI Training	04/2022
Image Processing with ArcGIS, ESRI Training	11/2018
Python for Everyone, ESRI Training	11/2018