

A data science professional interested in utilizing data to solve social, economic and environmental dilemmas. Enactable policies should be developed and employed across the country, reflective of the myriad spatial, social, cultural, political, and morphological agents that constitute place. I can be of great asset in a variety of fields including GIS development, machine learning, web development, environmental science, and city planning.

EDUCATION

UNIVERSITY OF PENNSYLVANIA, School of Design

Master of Urban Spatial Analytics (MUSA)

Master of Landscape Architecture (MLA)

Relevant Coursework: Geospatial Software Design, MUSA Practicum, Open Source GIS, Geospatial Data Science, Remote sensing

May 2021

May 2017

RASHTREEYA VIDYALAYA COLLEGE OF ARCHITECTURE, Bangalore, India

Bachelors of Architecture

RELEVANT EXPERIENCE

MASTER STUDENT, University of Pennsylvania

Predicting tree canopy loss in Philadelphia - MUSA Practicum

- Collaborated with the U.S Forest Service to predict factors for tree canopy loss in urban areas. The data is published on an interactive website using Javascript in the hope that local non-profit organizations can use it.
- Utilized R Studio to develop a ML model that predicts if the existing tree is at the risk of loss or not to 85% accuracy.

January 2021 - Present

Comparing Sea Level Rise in US - Geospatial Programming

- Employed NOAA API, pandas and altair to study patterns of sea level rise by analyzing more than 1 million records.
- Utilized Panel to develop a web application that had interactive and dynamic input from the user.

August 2020 - December 2020

Predicting wildfires in California - Public Policy

- Developed a ML model that predicts the risk of wildfire in California upto 80% accuracy cross validated by fires from 2019-present. Presented project and findings to non-technical experts for a marketing strategy.

August 2020 - December 2020

Predicting home prices in Miami and Philadelphia

- Developed a ML model in R and Python that predicts the home prices in Miami and Philadelphia with a MAE of \$30,000. Accuracy of the model was confirmed using goodness of fit metrics and cross validation techniques.

August 2020 - December 2020

Urbanization growth patterns around contested borders

- Utilized Earth Engine and ArcPy to use LANDSAT, MODIS, NDVI, SENTINEL and other satellite imagery to study urban growth patterns from 1700-2020 around contested borders. Worked with large global raster datasets for processing.

August 2020 - December 2020

RESEARCH ASSISTANT, University of Pennsylvania

EMLab ((Environmental Modeling Lab)

- Utilize ArcGIS and python to look at Sentinel images to create multi-spectral signatures for different landcover types.

January 2021 - Present

Ian McHarg Center

- Proposed research project examining the international implications of the Green New Deal conducted through data visualization using Python and ArcGIS of complex datasets to disseminate knowledge in highly legible formats.

January 2020 - Present

Invention of Rivers, Anuradha Mathur

- Used different methods of research and visualization to create exhibition pieces for the book.

January 2020 - May 2020

TEACHING ASSISTANT, University of Pennsylvania

Media III -Flows linear/non-linear

- Instructed students in ArcGIS and Rhino + Grasshopper.

August 2020 - December 2020

DESIGN EXPERIENCE

Summer Intern, Reed Gilliland Landscape Architecture, Petaluma, CA

- Assisted in the design of a residential project through conceptual, design, and construction development phases.
- Proposed conceptual design and made views for two competition proposals

May 2019 - August 2019

Project Architect, Bhumiputra Architecture, Bangalore, India

- Managed and supervised the Parinaam Foundation account and designed 20 prototypes of varied functions for underprivileged communities. Analyzed demographics and socio-economic factors to locate sites and functions.
- Integral member in a international competition for the design of the National War Museum; shortlisted to top 8.

July 2016 - June 2018

SKILLS & TECHNICAL EXPERTISE

Geospatial Analytics: ESRI GIS Software Suite (raster and vector), ArcPy, Google Earth Engine, Environmental Modeling, QGIS

Programming Languages: R Studio, Python, JavaScript, HTML, C++, SQL, Git, OpenStreetMap

Statistical Analysis: Machine learning algorithms (supervised and unsupervised), Predictive Modeling, Spatial Statistics

Data Visualization: HTML/CSS, Mapbox, Carto, ArcGIS API, Adobe Suite, Tableau, Python (Seaborn, Matplotlib, Altair, HVPlot)

Web Development: Cargo, JavaScript, Python for Web Development (panel, folium, flask)

Satellite Imagery/ Remote Sensing: ArcGIS Spatial Analytics Toolbox, Image Processing (R, Python and ArcGIS)

Ecological: Sustainability, Carbon accounting, Land Use and Environmental Planning, Urban Finance, Hydrology, Designing skills, Environmental restoration, Climate-change