

AKSHATA KARNIK

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SKILLS

- Programming languages: RStudio (dplyr, ggplot2, tidyverse), Python (numpy, pandas, matplotlib, scikit-learn, keras)
- GIS: QGIS, ArcGIS Pro, ERDAS IMAGINE, RStudio (rgdal, raster, lidR, tmap, rayshader)

EXPERIENCE

University of Michigan

Ann Arbor, MI

Student Researcher

Sep 2022 – Present

- Fill data gaps by assessing seasonal & temporal (2015 & 2022) variation in land surface temperatures (LST) and normalized difference vegetation index (NDVI) in Thane District, India using Landsat 8 OLI/TIRS imagery
- Developing a web application in RShiny for users to explore LST and NDVI data products generated

Cooperative Institute for Great Lakes Research (CIGLR)

Ann Arbor, MI

Research Assistant

Jan 2022 – Present

- Identify changepoint in three response variables indicating resuspension of microcystin colonies in water samples from thirteen sites in Lake Erie by fitting segmented Bayesian models in RStudio
- Determine role of sediment resuspension and other environmental variables as predictors of microcystin concentration in Lake Erie from a set of 130 predictors using generalized linear models
- Collaborate with four advisors and a team of four to discuss updates, integrate suggestions and compile report

Bombay Natural History Society

Mumbai, India

Junior Research Fellow

Feb 2019 – Aug 2021

- Designed methodology to conduct point count surveys and collected bird data in five seasons in Navi Mumbai International Airport and surrounding areas (~300 Km²) during airport construction phase
- Analyzed data in RStudio to determine bird abundance & diversity, and compiled five biannual reports in collaboration with a team of two to share results with local government bodies
- Planned and executed field surveys along with a team of two, held regular meetings with project supervisor to discuss project progress and incorporate recommendations, supervised three interns

Wildlife Institute of India

Dehradun, India

Project Fellow

Sept 2016 – Sept 2017

- Predicted human-wildlife conflict (HWC) hotspots by mapping HWC locations and associated variables, and administered socio-economic surveys to 200 individuals to understand peoples' attitudes towards wildlife
- Led a team of three in camera trapping at Gorumara National Park in West Bengal to determine leopard densities in landscape mosaic of forests and tea-plantations (~250Km²)
- Presented findings of study at 2nd Himalayan Research Seminar, Wildlife Institute of India, Dehradun, India

EDUCATION

University of Michigan

Ann Arbor, MI

MS in Environment and Sustainability – Geospatial Data Science. 3.86/4.00

April 2023

- **Awards:** Master's project fellowship: SEAS - \$1500, CIGLR - \$9000
- **Machine Learning Project:** Predicted hourly temperatures in Lake Trout using MLP regressor in Python, predicted landslide occurrence by comparing accuracy & recall values of six machine learning models

TERI School of Advanced Studies

New Delhi, India

MS in Environmental Studies & Resource Management – Ecology & Wildlife Studies

June 2016

- **Awards:** Hemendra Kothari Fellowship Grant - ₹60,000
- **Project:** Identified habitat-use of large carnivores in a data deficient human-dominated landscape in Western Ghats, India using occupancy models. Presented poster at Student Conf. on Conservation Studies, Bangalore, India

St. Xavier's College - Autonomous

Mumbai, India

BSc in Life Sciences

June 2014