
SUMMARY

Geoinformatics graduate with an interdisciplinary research background. Enthusiastic R, C++ and Python developer. Worked on mobile monitoring of air quality in Bangalore. Current role: Geospatial Data Analyst at ILK Labs. Interested in machine learning, artificial intelligence, environmental issues and spatial science.

EDUCATION

Master of Science in Geoinformatics (MSc.)

Bharati Vidyapeeth Institute of Environment Education and Research, Pune, India, CGPA 8.96/10

Aug 2018

Bachelor of Science in Physics (Honors)

Sri Sathya Sai Institute of Higher Learning, Anantapur, India CGPA 8.5/10

Apr 2016

RESEARCH and PROFESSIONAL EXPERIENCE

Air Quality, Bangalore, India

2018 - Present

Geospatial Data Analyst, ILK Labs

- Assisted in designing and implementing mobile monitoring of air quality to generate high resolution maps. (Project Partners: University of Washington, Seattle; University of Texas, Austin)
- Built web based open-source tools to clean, correct and analyse the collected data.
- Generated high-resolution long-term pollutant maps using Monte Carlo subsampling.
- Analysed and applied machine learning models to low-cost air quality sensor network data.

Cohort Study and Instructor (Teaching Experience), Chennai, India

2021 - Present

Consultant, Sri Ramachandra Institute of Higher Education and Research

- Project: Assessing the role of LPG coverage at scale to achieve household air pollution and ambient air pollution exposure reductions using hyper-low-cost PM2.5 sensor network: Implications for the Pradhan Mantri Ujjawala Yojana program in India. Modelling and calibrating data collected by the hyper-low-cost PM2.5 sensor network.
- Instructor of *Introduction to R* for the research staff of Sri Ramachandra Institute of Higher Education and Research for over a period of 4 months.

Wildlife Conservation, Bangalore, India

2020 - 2021

Consultant, Asian Nature Conservation Foundation

- Mapping and monitoring Elephant distribution based on land use, elevation and identifying the elephant attacked regions in Karnataka state. Part of the team producing the Elephant Atlas for the state.
- Assisted in wildlife crime investigation of ivory trafficking.
- Analysing data collected for the elephant barrier across the state of Karnataka, to understand the condition.

Air quality personal exposure, Delhi, India

2019

Consultant, [The New York Times](#)

- Consulted on an awarding winning story on PM2.5 personal exposure in Delhi neighbourhoods.

Glacier Studies, Goa, India

(6 months) 2018

Intern, National Center for Polar and Ocean Research

- Estimated velocity using optical and microwave remote sensing for one of the most dynamic ice shelves in the East Antarctic region- the Amery Ice shelf system. Estimated velocity from 2001 to 2018 using DEM-assisted co-registration pixel-offset-tracking (using SAR images) and optical feature tracking.
- Observed the effect of Blue Ice Areas and Elevation and Melt duration on the estimated velocity.

Master's Thesis and Wai Technologies, Pune, India

(6 months) 2017

Student, Bharati Vidyapeeth Institute of Environment Education and Research

- Designed a user-friendly, interactive, web based geographic information system for real time auditing of ground-based assets using C#, MSSQL and JavaScript called Asset Connect.
- Methodology consisted of a five-phase approach which included data modeling of masters and transactions, spatial analysis of assets using a comprehensive system, tracking history of assets, costing and reporting to provide an advanced decision support system.
- Interned at WAI Technologies to assist in designing and creating a simple android application to collect user information for software built by the core team.

Land use land cover change, Pune, India

(3 months) 2017

Intern, Tata Power Limited

- Determined Land use Land cover of Mulshi Catchment area. Performed segmentation on very high-resolution images using eCognition software, ArcGIS and techniques of visual interpretation were used for classification.

VOLUNTEER NON-PROFIT EXPERIENCE

2020 - Present

- [Peer reviewer](#) for Journal of Open-Source Software
- Moderating and conducting Incubator on **Strategies to build a strong Asian R community** at [useR! 2021](#)
- Founder and Co-organiser of [R-Ladies Bangalore](#), facilitator of Asian Cohort of [R4DS](#) book club
- Volunteer of [Bangpypers](#) (Bangalore Python users' group) and [PyCon India 2021](#)
- In Global organising team for Sponsorship, Program and Content team and part of Code of Conduct Response team for the [useR! 2021 global](#)
- Co-hosted a live Q and A session - [Teaching](#) for [rstudio::global\(2021\)](#), chair for Keynote at [useR! 2021](#)

AWARDS and HONORS

- [rstudio::global\(2021\)](#) Diversity Scholar, 2021
- [R@IISA](#) Conference Travel Award, 2019
- Primer in Methods and Ecological Research ([PRIMER](#)) Sponsored by ILK Labs, 2019
- For undergraduate degree at Sri Sathya Sai Institute of Higher Learning received Gold Medal, 2016
- Indian Academy of Sciences Summer Research Fellowship Program, 2015

SOFTWARE PACKAGES

Creator and maintainer of [mmaqshiny](#) and [pollucheck](#) (R packages) and maintainer of [ropenag](#) from [rOpenSci](#).

SELECTED PRESENTATION and PUBLICATIONS

Upadhyay, Adithi R., Pratyush Agrawal, Sreekanth Vakacherla, and Meenakshi Kushwaha. "pollucheck v1.0: A package to explore open-source air quality data." *Journal of Open Source Software* 6, no. 63 (2021): 3435

R in the aiR! – presenting an elevator pitch at [user! 2021](#).

Spandana, B., S. Srinivasa Rao, **Adithi R. Upadhyay**, Padmavati Kulkarni, and V. Sreekanth. "PM2. 5/PM10 ratio characteristics over urban sites of India." *Advances in Space Research* 67, no. 10 (2021): 3134-3146.

Sreekanth, V., Meenakshi Kushwaha, Padmavati Kulkarni, **Adithi R. Upadhyay**, B. Spandana, and Vignesh Prabhu. "Impact of COVID-19 lockdown on the fine particulate matter concentration levels: Results from Bengaluru megacity, India." *Advances in Space Research* 67, no. 7 (2021): 2140-2150.

Upadhyay, Adithi R., Pratyush Agrawal, Sreekanth Vakacherla, and Meenakshi Kushwaha. "mmaqshiny v1. 0: R-Shiny package to explore Air-Quality Mobile-Monitoring data." *Journal of Open Source Software* 5, no. 50 (2020): 2250

Varma, S., Goswami, A.A., Kumar, M., **Upadhyay, A.R.**, Chowdhary, A., Pukkella, P.S, and R. Sukumar (2019). Elephants of Karnataka –Atlas: Status, Distribution, Movements and Corridors. Asian Nature Conservation Foundation (ANCF), Ministry of Environment, Forest and Climate Change (MoEFCC) and The Karnataka Forest Department.

Jawak, S. D., **A. Upadhyay**, P. H. Pandit, and A. J. Luis. "Changes in velocity of fisher glacier, east Antarctica using pixel tracking method." *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 42 (2018): 5.