
ABOUT ME (She / Her) [website](#)

Geoinformatics graduate with an interdisciplinary research background. Enthusiastic to write codes that are readable, scalable, and efficient; interested in machine learning, environmental issues, and spatial data science.

EDUCATION

Master of Science in Geoinformatics (M. Sc.)

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

Thesis: [AssetConnect](#): A Dynamic Web Application to track assets using Geospatial Technologies.

Aug 2018

Bachelor of Science in Physics (Honors)

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

Thesis: Analysis of Gamma Decay Spectrum of Tb 159 to Dy 162 using GammaVision and FIT

Apr 2016

EMPLOYMENT

Data Scientist - Air pollution, ILK Labs, India

2018 - 2023

- Developing air quality models using satellite, stationary, and mobile measurements of air pollutants in Bengaluru, India in collaboration with Google; University of Washington, Seattle; University of California, Berkeley.
- Analysis of low-cost air pollution sensor data from a multi-state network established in the Indo Gangetic Plains-India, with University of California, Berkeley.

Consultant, Sri Ramachandra Institute of Higher Education and Research, India

2020 - 2023

- Calibration model development and analysis of multi-habitat indoor and outdoor low-cost sensors as a part of assessing the effectiveness of the LPG scheme introduced by the Govt. of India.

Intern, National Center for Polar and Ocean Research, Goa, India

2018

- Glacier velocity estimation using optical and microwave remote sensing and study of Blue Ice Areas, elevation, and melt duration effects on the estimated glacier velocity.

Intern, Tata Power Limited, Pune, India

2017

- Segmentation on very high-resolution Worldview images using multiple software and techniques of visual interpretation.

Intern, Wai Technologies, Pune, India

2017

- Development of android application for demonstration purpose.

PROFESSIONAL EXPERIENCE

Co-Instructor- [Introduction to R](#)

2022

Center for Study of Science, Technology, and Policy (CSTEP) and Sri Ramachandra Institute of Higher Education and Research

Consultant air quality personal exposure - [The New York Times](#)

2020

PROGRAMMING SKILLS

Data analysis: **R** (advanced), **SQL** (intermediate), **Python** (beginner)

Software development: **R** (intermediate), **C#** (beginner)

Web development: **Shiny** (intermediate), **HTML/CSS** (beginner), **JavaScript** (beginner)

Document preparation: **markdown** (intermediate)

DevOps: **Git/GitHub**

GIS Software: **QGIS**, **ArcGIS**, **SAGA**

Google Products: [Google Maps API](#), [Google Earth Engine](#)

OPEN-SOURCE SOFTWARE DEVELOPMENT

Developer and maintainer - [mmaqshiny](#), [pollucheck](#); maintainer - [ropenaq2](#).

VOLUNTEER EXPERIENCE

2020 - Present

- Founder and Co-organiser of [R-Ladies Bangalore](#) and co-founder of [AsiaR](#).
- Global organising team member 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 a Keynote at [useR! 2021](#)

PEER REVIEWER

1. [Journal of Open Source Software](#)
2. [rOpenSci](#)

REPORTS

1. CSTEP and ILK Labs (2022). Mapping air pollution in Bengaluru using low-cost sensors and mobile monitoring data. (under review)
2. CSTEP and ILK Labs (2022). Best practices for deploying and maintaining a low-cost PM_{2.5} sensor network. [CSTEP WS-2022-02](#).
3. CSTEP and ILK Labs (2022). Performance assessment of low-cost PM_{2.5} sensors. [CSTEP-WP-2022-01](#).

JOURNAL PUBLICATIONS

1. Sreekanth, V., Bhargav, A. R., Kulkarni, P., Puttaswamy, N., Prabhu, V., Agrawal, P., **Upadhyaya, A. R.**, Rao, S., Sutaria, R., Mor, S., Dey, S., Khaiwal, R., Balakrishnan, K., Tripathi, S. N., Singh, P. Inter- versus Intra-city variations in the performance and calibration of low-cost PM_{2.5} sensor: a multicity assessment in India. Manuscript accepted in ACS Earth and Space Chemistry. doi: 10.1021/acsearthspacechem.2c00257
2. Kushwaha, M., Sreekanth, V., **Upadhyaya, A. R.**, Agrawal, P., Apte, J. S., & Marshall, J. D. (2022). Bias in PM_{2.5} measurements using collocated reference-grade and optical instruments. *Environmental Monitoring and Assessment*, 194(9), 1-14. doi: 10.1007/s10661-022-10293-4
3. Joo, R., Sánchez-Tapia, A., Mortara, S., Bellini Saibene, Y., Turner, H., Hug Peter, D., ... & Ravi, J. (2022). Ten simple rules to host an inclusive conference. *PLoS computational biology*, 18(7), e1010164. doi: 10.1371/journal.pcbi.1010164
4. Kulkarni, P., Sreekanth, V., **Upadhyaya, A. R.**, & Gautam, H. C. (2022). Which model to choose? Performance comparison of statistical and machine learning models in predicting PM_{2.5} from high-resolution satellite aerosol optical depth. *Atmospheric Environment*, 119164. doi: 10.1016/j.atmosenv.2022.119164
5. Puttaswamy, N., Sreekanth, V., Pillarisetti, A., **Upadhyaya, A. R.**, Saidam, S., Veerappan, B., ... & Balakrishnan, K. (2022). Indoor and Ambient Air Pollution in Chennai, India during COVID-19 Lockdown: An Affordable Sensors Study. *Aerosol and Air Quality Research*, 22(1), 210170. doi: 10.4209/aaqr.210170

6. **Upadhyia, A. R.**, Agrawal, P., Vakacherla, S., & Kushwaha, M. (2021). polluchek v1. 0: A package to explore open- source air pollution data. Journal of Open Source Software, 6(63), 3435. doi: 10.21105/joss.03435
7. Spandana, B., Rao, S. S., **Upadhyia, A. R.**, Kulkarni, P., & Sreekanth, V. (2021). PM_{2.5}/PM₁₀ ratio characteristics over urban sites of India. Advances in Space Research, 67(10), 3134-3146. doi: 10.1016/j.asr.2021.02.008
8. Sreekanth, V., Kushwaha, M., Kulkarni, P., **Upadhyia, A. R.**, Spandana, B., & Prabhu, V. (2021). Impact of COVID-19 lockdown on the fine particulate matter concentration levels: Results from Bengaluru megacity, India. Advances in Space Research, 67(7), 2140-2150. doi: 10.1016/j.asr.2021.01.017
9. **Upadhyia, A. R.**, Agrawal, P., Vakacherla, S., & Kushwaha, M. (2020). mmaqshiny v1. 0: R-Shiny package to explore Air-Quality Mobile-Monitoring data. Journal of Open Source Software, 5(50), 2250. doi: 10.21105/joss.02250

AWARDS and OTHER interests

- [Geo for Good Summit](#), Mountain View, California, 2022 (~3300 USD)
- [Certified Tidyverse Instructor](#) – 2022
- RStudio Diversity Scholar, 2021
- [R@IISA](#) Conference Travel Award, 2019 (~160 USD)
- Primer in Methods and Ecological Research ([PRiMER](#)) Sponsored by ILK Labs, 2019 (~370 USD)
- For undergraduate degree received Gold Medal, 2016
- Wildlife Conservation – A volunteer at [Asian Nature Conservation Foundation](#), Bengaluru.