ADITHI R. UPADHYA

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Date of Birth: 1995 March 27

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 *Aug 2018*
Thesis: AssetConnect: A Dynamic Web Application to track assets using Geospatial Technologies.

Bachelor of Science in Physics (Honors) *Apr 2016*
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*

EMPLOYMENT

Data Scientist-Air pollution, ILK Labs, India 2018 - Present
- 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 - Public Health, Sri Ramachandra Institute of Higher Education and Research, Chennai, India 2021 - Present
- 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

AWARDS

- Geo for Good Summit, Mountain View, California, 2022 (~3300 USD)
- RStudio 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 at Sri Sathya Sai Institute of Higher Learning received Gold Medal, 2016

REPORTS

1. CSTEP and ILK Labs (2022). Mapping air pollution in Bengaluru using low-cost sensors and mobile monitoring data. (Under preparation)
2. CSTEP and ILK Labs (2022). Best practices for deploying and maintaining a low-cost PM2.5 sensor network. CSTEP WS-2022-02.
3. CSTEP and ILK Labs (2022). Performance assessment of low-cost PM2.5 sensors. CSTEP-WP-2022-01.

JOURNAL PUBLICATIONS

1. Singh, P., Sreekanth, V., Bhargav, A. R., Kulkarni, P., Puttaswamy, N., Prabhu, V., Agrawal, P., **Upadhya, A. R.**, Rao, S., Sutaria, R., Mor, S., Dey, S., Khaiwal, R., Balakrishnan, K., Tripathi, S. N. Inter-versus Intra-city variationsin the performance and calibration of low-cost PM2.5 sensor: a multicity assessment in India. Manuscript Submitted.

2. Kushwaha, M., Sreekanth, V., **Upadhya, A. R.**, Agrawal, P., Apte, J. S., & Marshall, J. D. (2022). Bias in PM2. 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., **Upadhya, A. R.**, & Gautam, H. C. (2022). Which model to choose? Performance comparisonof statistical and machine learning models in predicting PM2. 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., **Upadhya, 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. **Upadhya, A. R**., Agrawal, P., Vakacherla, S., & Kushwaha, M. (2021). pollucheck 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., **Upadhya, A. R**., Kulkarni, P., & Sreekanth, V. (2021). PM2. 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., **Upadhya, 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 SpaceResearch, 67(7), 2140-2150. doi: 10.1016/j.asr.2021.01.017
9. **Upadhya, 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

OTHER INTERESTS

- Wildlife Conservation – A volunteer at Asian Nature Conservation Foundation, Bengaluru.