






# ADITHI R. UPADHYA

A Geoinformatics graduate with an interdisciplinary research background. An enthusiastic R and Python developer. Working on mobile monitoring of air quality in Bangalore as a Geospatial data analyst. Currently seeking a PhD position to delve into the world of advanced Geospatial technologies and methods.





## EDUCATION

- 2018 • **Bharati Vidyapeeth Institute of Environmental Education and Research, Pune**  
MSc Geoinformatics - CGPA 8.96/10  Pune, India
- 2016 • **Sri Sathya Sai Institute of Higher Learning**  
BSc Honors in Physics - CGPA 8.5/10  Anantapur, India


## RESEARCH EXPERIENCE


- 2018 | Present • **Air Quality**  
Geospatial Data Analyst, ILK Labs  Bangalore, India
  - Assisted in designing the study routes, collected air quality and GPS data. (Project partners: University of Washington, Seattle, University of California, Berkeley and CSTEP, India)
  - Developed data tools to clean, correct the collected data.
  - Analysed and applied models to the data.
  - Managed the database of big data sets.
  - Generated high-resolution maps using QGIS.
  - Co-Founder and Co-organiser of [R-Ladies Bangalore](#).
  - Peer [reviewer](#) for Journal of Open Source Software.
  - Volunteer for the [useR! 2021 global](#) (Sponsorship).
  - Facilitator of Asian Cohort of [R4DS book club](#).
- 2019 • **Exposure Assessment**  
Consultant, New York Times  New Delhi, India  
Consulted on a story on [PM2.5 personal exposures](#) in Delhi neighborhoods.
- January 2018 | July 2018 • **Velocity estimation in the Amery Ice Shelf, Antarctica**  
Research intern, National Centre for Polar and Ocean research  Goa, India
  - Estimated velocity from 2001 to 2018 using optical and microwave remote sensing for one of the most dynamic ice shelves in the East Antarctic region- the Amery Ice shelf system. - The techniques used are DEM-assisted co-registration pixel-offset-tracking and optical feature tracking.
  - Observed the effect of Blue Ice Areas and Elevation and Melt duration on the estimated velocity using various satellite images.


## CONTACT

 [adithiru095@gmail.com](mailto:adithiru095@gmail.com)  
 [adithirgis](#)  
 +91-9137364804  
 [AdithiUpadhy](#)

## SKILLS

 **Experience:** Worked on interdisciplinary projects.

 **Programming:** R, Python, QGIS, PostgreSQL, GitHub, ArcGIS

 **Other:** Data science, Statistics, Web apps, data tools

## AWARDS & HONORS

**Primer in Methods and Ecological Research (PRiMER)**  
Sponsored by ILK Labs, 2019.

**R@IISA Conference** Travel Award, 2019

**Sri Sathya Sai Institute of Higher Learning** Received Gold Medal - summa cum laude equivalent, 2016

**Indian Academy of Sciences**  
Summer Research Fellowship Program, 2015

*This resume was made with the R package [pagedown](#). Last updated on 2020-12-18.*

April  
2017  
|  
December  
2017

### ● **Asset Connect - Web application using geospatial technology**

Master Thesis, Bharati Vidyapeeth Institute of Environmental Education and Research

📍 Pune, India

- Designed and developed user-friendly, interactive geographic information system interface for inserting, editing and auditing ground-based assets using Javascript, C# and SQL to build it.
- The 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.

November  
2015  
|  
February  
2016

### ● **Gamma Spectrum decay of Tb 159**

Project, Sri Sathya Sai Institute of Higher Learning 📍 Anantapur, India

- Verified the gamma spectrum decay of Tb 159 into Dy 160 using two software's called Gamma Vision and FIT.

April  
2015  
|  
June  
2015

### ● **Quantum Logic Gates**

Summer research fellow, Indian Institute of Sciences 📍 Bangalore, India

- Constructed quantum logic gates, their different types and the process of constructing them.
- Studied the differences between the classical and quantum logic gates and was briefly exposed to quantum teleportation.



## TEACHING EXPERIENCE

2019  
|  
2020

### ● **Grand Challenges Impact Lab**

Teaching Assistant, University of Washington

📍 Bangalore, India

- Assisted in projects design.

2019

### ● **Introduction to R Language for Beginners**

Instructor of R

📍 Bangalore, India



## SOFTWARE PACKAGE(S)

2020

- **Maintainer and creator of [mmaqshiny](#) on [CRAN](#).**



## OTHER PROFESSIONAL EXPERIENCE

July 2017  
|  
November  
2017

### ● **Intern**

WAI Technologies

📍 Pune, India

- Designed and developed a demo android application and connected it with the backend (MSSQL) for data storage.

December  
2016  
|  
March  
2017

### ● **Intern**

Tata Power Ltd.

📍 Pune, India

- Determined Landuse Land cover of Mulshi Catchment area.
- Performed segmentation on very high-resolution images using eCognition software.



## PUBLICATIONS UNDER REVIEW

2020

- **PM2.5/PM10 ratio over urban sites of India: Comparison with MERRA-2. Manuscript submitted for publication.**

B S, Rao S, Upadhya AR, Kulkarni P, Vakacherla S.

2020

- **Impact of Covid-19 Lockdown on the fine Particulate Matter Concentration Levels: result from Bengaluru megacity, India.**

Vakacherla S, Kushwaha M, Kulkarni P, Upadhya AR, B S, Prabhu V.



## SELECTED PUBLICATIONS AND PRESENTATIONS

2020

- **Mobile-monitoring of Black Carbon and Ultrafine particles in Bangalore, India**

ISEE Presentation (Session: High Resolution Air Pollution Exposure Assessment)

2020

- **mmaqshiny v1.0: R-Shiny package to explore Air-Quality**

Journal of Open Source Software. 2020 Jun 28;5(50):2250.

Upadhya AR, Agrawal P, Vakacherla S, and Kushwaha M.

2019

- **Exploring air quality data using the Shiny package**

R conference at International Indian Statistical Association, Presentation

📍 Mumbai, India

2019

- **Mobile-Monitoring of Air Pollution (Black Carbon): Preliminary Results from Bangalore, India**

ISEE Conference Presentation

2018

- **Changes in Velocity of Fisher Glacier, East Antarctica using Pixel Tracking method.**

ISPRS Conference Presentation

📍 Dehradun, India