

Aryaman Srivastava

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EDUCATION

Bachelor of Engineering in Environmental Engineering

L.D. College of Engineering, Ahmedabad

Gujarat Technological University; CGPA: 8.22

Ahmedabad, Gujarat, India

2020 – 2024

EXPERIENCE

Indian Institute of Technology, Bombay

Research Intern, Environmental Science and Engineering Department

Mumbai, Maharashtra, India

Jan 2024 - June 2024

- PI: Prof. Subhankar Karmakar
- Developing AI-ML-based projection model for mapping district-level vulnerability at a national scale and assessing Agricultural Vulnerability for major cereal crops namely Rice, Wheat, Maize, and Millet.
- Data Inventorization of 40+ Vulnerability Indicators from Meteorological, Hydro-logical, Agricultural and Socio-economic sectors from past 20 years.
- Comparing Data Envelopment Analysis (DEA) Models based on their statistical ability to capture the agricultural vulnerability towards climate change.

Directorate of Environment, Government of Uttar Pradesh

Summer Intern

Lucknow, Uttar Pradesh, India

June 2023

- Involved in the technical aspect of DPR (Detailed Project Report) on the Uttar Pradesh Clean Air Management Program (UP CAMP).
- Worked on the domestic sector and road dust interventions, including biogas plant technologies, improved cooking stoves, and paved-unpaved road analysis.
- Contributed to designing the network for air quality monitoring stations throughout the state.

CEPT Research and Development Foundation

Research Intern, Center of Applied Geomatics

Ahmedabad, Gujarat, India

Jan 2023 - Mar 2023

- PI: Dr. Shaily Gandhi
- Undertaken the study on the spatial distribution of emissions over Ahmedabad in 2022 using satellite data procured from Sentinel - 5p(TROPOMI).
- Utilized cartographic products to analyze and visualize satellite imagery, creating maps and reports to communicate findings for the project.
- Analyzed spatiotemporal trends and emission patterns across the city, identifying key Hot spots to justify cause-effect analysis.

Oizom Instruments Pw. Ltd

Technical Content Writer

Ahmedabad, Gujarat, India

March 2022 - May 2022

- Drafted whitepapers and blogs regarding air quality analysis, parameters, and communication technologies used for monitoring.
- Conducted in-depth research on air pollution, environmental monitoring, and related topics to create engaging and informative content.
- Interviewed subject matter experts and consumers to gather insights and data for content creation.

Paryavaran Mitra

Legal Intern

Ahmedabad, Gujarat, India

Sept 2021 - Oct 2021

- Undertaken thorough study of environmental legislation in the sector of Environmental Impact Assessment and public hearing, to draft content regarding the same.
- Conducted legal research on socio-environmental issues in Gujarat related to air pollution, water pollution and waste management.
- Involved in community outreach and education initiatives to increase public awareness on the legal aspects of environmental issues.

PROJECTS

Mapping Air Pollution over Ahmedabad in 2022

2023

CEPT Research and Development Foundation (CRDF)

Advisor: Dr. Shaily Gandhi, Center of Applied Geomatics

- Using the satellite data from Sentinel-5P's TROPOMI to develop a cartographic product by mapping the distinct air pollutant emissions over the city of Ahmedabad in the year 2022 to identify the spatial and temporal trends associated with the emission patterns of Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂) and Carbon Monoxide (CO), as well as establishing the connection with different emission sectors (domestic, vehicular, industrial) in the city.

Conversion of Spent Activated Carbon (SAC) into Briquettes

2023

Hackathon on Solution for Waste Reduction 2023

Advisor: Prof. Vishwa Shukla, Asst. Prof, L.D. College of Engineering

- Developed an innovative method to convert spent activated carbon (SAC) from dye industries into briquettes for alternative fuel in cement production. Utilized microwave technology for SAC preprocessing, dissolving adsorbate with water, and incorporated sugarcane bagasse as a binding material for eco-friendly waste management and fuel extraction in a sustainable manner.

Locally Enhanced Electric Field Treatment (LEEFT) for water disinfection

2022

Design Engineering, L.D. College of Engineering

Advisor: Prof. Dimpi Shah, Asst. Prof, L.D. College of Engineering

- Designed an alternative to the chlorination method of water treatment that utilizes an electric field generated at the tip of coaxially arranged nanowires to deactivate microorganisms (Theory of Electroporation). Advantages include no chemical addition, minimal energy consumption, rapid action, and absence of disinfection by-products.

Solar Bubble Dryer

2022

Smart India Hackathon 2022

Advisor: Prof. Yagni Rami, Asst. Prof, L.D. College of Engineering

- Alternative solution against the commercial solar drying of food commodities involving IoT-based sensing for real-time monitoring and alerts. Manufactured from biodegradable materials for sustainable disposal after use.

CERTIFICATIONS

MATLAB Onramp *MathWorks* (2024)

Machine Learning in Weather and Climate *European Centre for Medium-Range Weather Forecasts (ECMWF)* (2023)

GIS in Climate Action *Environmental Systems Research Institute (ESRI)* (2023)

Climate Change: From Learning to Action *United Nations Institute for Training and Research (UNITAR)* (2023)

Spatial Data Science: The New Frontier in Analytics *Environmental Systems Research Institute (ESRI)* (2023)

Going Places with Spatial Analysis *Environmental Systems Research Institute (ESRI)* (2022)

Imagery in Action *Environmental Systems Research Institute (ESRI)* (2022)

Cartography *Environmental Systems Research Institute (ESRI)* (2022)

Climate Modelling *Divecha Center for Climate Change, IISc Bangalore* (2021)

GRANTS AND AWARDS

IRCC IITB Research Internship Awards 2023-24

Jan 2024

- Research project-specific fellowship grants issued by Industrial Research and Consultancy Centre (IRCC), IIT Bombay.

SKILLS

Technical: GIS, Python, R, SQL, C++, C, Javascript, Arduino, CAD, Google Earth Engine, MATLAB

Soft Skills: Content Writing, Public Speaking, Environmental Policymaking, Event Management

Languages: English, Hindi, Gujarati, German