Shreya Guha

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EDUCATION

George Mason University, Fairfax, VA   May 2025
PhD, Civil, Environmental and Infrastructural Engineering   GPA: 3.9/4.0

- On schedule to complete degree in 5 years while working 20 hours/week to finance tuition
- Dissertation title: "Effects of meteorology and regulatory policy on ambient pollutant concentrations in China since 2011"
- Publication: Guha, Shreya, et al. "Fine particulate matter and ozone variability with regional and local meteorology in Beijing, China." *Atmospheric Environment* 338 (2024): 120793. *https://doi.org/10.1016/j.atmosenv.2024.120793*
- Awards:
  o AY 2024-25 Doctoral Research Scholarship Awarded by GMU Graduate Division
  o 2024 Summer Research Fellowship grant by GMU graduate division
  o Graduate Tuition Grant Fall/Spring by GMU (2020, 2021, 2022, 2023)
  o Stay Mason Student Support Fund (2020)
  o Graduate Student Travel Fund (2023)
- Conference Presentations:
  o CEC Innovation week for Engineers, GMU (2023, 2024)
  o GAPSA conference, GMU (2023, 2024)
  o CMAS conference, UNC (2021, 2022, 2023, 2024)
  o MAC-MAQ conference, UC Davis (2023)
- Other project(s):
  o Long-term Trends of $PM_{2.5}$ Chemical Composition in the Continental United States: Implications for Human Exposure and Health Effects (Jan – May 2023)
  o How is air pollution deteriorating water quality of the river Yamuna at Delhi, India? (Jan-May 2021)
  o Case study: Why isn't there any policy to restrict growing air pollution in India? (Sep-Dec 2020)

George Mason University: May 2020
  MS, Earth Systems Science   GPA: 3.56/4.0
  - Awarded Graduate Tuition Grant Spring by GMU in 2018
  - Thesis title: "Using an Improved Coupling Drought Index to predict the persistence of meteorological drought over West central India"
  - Other project: "Using Remote Sensing Techniques to analyse vegetation loss due to Forest fires in Bandipur, India during February 2019"

University of Calcutta, Kolkata, India   July 2016
MSc., Atmospheric Science   GPA: 4.0/4.0

- Awarded Silver Medal for ranking 2nd

- Thesis title: "Simulation of Synoptic features during monsoon onset over GWB, India with Dynamic Coupled Model – CFSv2"

University of Calcutta, Kolkata, India July 2014
BSc., Mathematics (Hons), Physics, Statistics

EXPERIENCE

George Mason University, Fairfax, VA Aug/2020 – present
Graduate Research Assistant
- Worked with the air pollution data in China from 2011 to present to understand the impact of the regulations launched by the Chinese government in the atmosphere and on public health as a part of the research funded by Health Effects Institute (HEI), an organization jointly funded by the United States Environmental Protection Agency (EPA) (Assistance Award No. CR 83998101)
- Evaluated publicly available exposure data products for $PM_{2.5}$ and ozone against observations in China
- Developed a hybrid statistical & machine learning model to successfully predict meteorological contributions to air pollution levels in China

George Mason University, Fairfax, VA May/2024 – Aug/2024
Administrative Summer Office Assistant, CEIE department
- Compiled details for development of teachers' mentorship program, alumni association activities & career guidance programs at CEIE GMU based on top 100 universities in US
- Compiled syllabi for DAEN Master's concentration programs to be offered by CEIE GMU
- Allocated seating for new graduate students & other office works

Alan Alda Online Science Communication Workshop, Fairfax, VA May/2020 – Sep/2020
Summer Research Assistant
- Project title: "Small steps to promote effective drought management in SW India"
- Communicating with stakeholders to switch cash crops with food crops for collective financial profit and combat droughts in SW India

George Mason University, Fairfax, VA Jan/2018 – Aug/2018
Graduate Research Assistant
- Prediction of drought persistence or intensification over west central India
- Predictability of climate models over the Indian subcontinent during El Niño-Southern Oscillation (ENSO)

ISRO RTG-AWARE, Vijayawada, India Jun/2017-Nov/2017
Junior research fellow
- Worked with Indian Space Research Organization (ISRO) and the government of India to process big datasets of meteorology and use ensemble modelling for operational seasonal climate forecast over Andhra Pradesh, India

- Other project: Airframe Icing as an effect of tropopause level rise and ways to combat it *(Presented at AeroMetSci-2017, organized by World Meteorological Organization; Toulouse; France; November 2017)*

Teach for India, Kolkata, India   Sep/2016-Feb/2017
Teaching Instructor
- Taught slum children and helped create a different linguistical syllabus for underprivileged students

Kali, Kolom o Easel, Kolkata, India   Oct/2015-Jun/2016
Editor
- Edited two issues for the magazine focusing on non-binary identities in India and Bengali language movement in Assam, India

VOLUNTEERING ACTIVITIES

- **Reviewer and judge**, **2024 UC Irvine Science Policy & Advocacy Certificate Program**
- **Founding member & Director of communications**, Graduate Association of Civil, Environmental and Infrastructural Engineering (**GRACE**), GMU   Jan 2024- present
- **Board member**, International Student Advisory Board (**ISAB**) (GMU)   Sep 2024 - present
- **Representative for CEIE department**, Graduate & Professional Student Association (**GAPSA**), GMU   Sep 2023-Present
- **Reviewer, So to Speak**: GMU's graduate feminist journal of language and art   Sep 2021-Aug 2023
- **Member**, Room 7 (Affordable & Clean Energy on campus) for Sustainable Development Goal (**SDG**); GMU   Jun 2021- May 2023
- **Treasurer**, Graduate Student Organization (GSA) at Atmospheric, Ocean and Environmental Science (AOES) department, GMU   Jul 2019-Aug 2020
- Has done scriptwriting, direction and acting for more than 10 socio-political plays for University of Calcutta   Jul 2013-Jun 2016

TECHNICAL SKILLS

- **Languages known:** R, GrADS, MATLAB, NETCDO, ANSI-C, FORTRAN-95
- **Operating Systems:** Windows, Linux
- **Software:** MS Office, ENVI, ARCGIS and ArcPy
- **Climate Model:** NOAA GFDL
- **Others:**
  - Compiling, processing big data files in all formats (.nc, .csv, .tif)
  - Plotting and analysis of Tephigrams and weather maps
  - Postprocessing and interpretation of multispectral, hyperspectral, IR and visible band images obtained from satellites, RADARs and LiDARs;
  - Handling spatial data: different map projections, mapping and presenting GIS data, map overlay, geoprocessing, spatial joins