DR.ADITYA DHURIA

CONTACTS

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PERSONAL DETAILS

Date of birth
19-11-1988

Nationality
INDIAN

Marital status
SINGLE

SKILLS

Research Skills: Strong research abilities, including designing experiments, collecting and analyzing data, and interpreting results.

Numerical Modeling: Proficiency in using numerical models for atmospheric and environmental simulations.

Statistical Analysis: Experience with statistical techniques for data analysis and interpretation.

Programming Languages: Proficiency in programming languages commonly used in atmospheric sciences, such as

ABOUT ME

Dynamic Mechanical Engineer and Atmospheric Scientist with Extensive Teaching and Research Experience

With a unique blend of industry and academic expertise, I bring over eight years of experience as a Research Scientist and Teaching Assistant during my PhD at the prestigious Indian Institute of Technology (IIT) Delhi, ranked among the top 100 institutes globally. In this period, I conducted lab classes, created assignments and tests, and evaluated students' work, while also engaging in groundbreaking research in atmospheric science. My doctoral research advanced the understanding of atmospheric dynamics, particularly diffusion processes and meandering phenomena. By leveraging both U.S.A. and Indian data, I enhanced the accuracy of existing atmospheric models by 98%, significantly contributing to the field. My research findings, published in prestigious international journals, have been widely acclaimed for their impact and innovation.

Professional Highlights:

Industry Experience: At Larsen & Toubro Ltd. (L&T), I successfully led planning, billing, and quality management for the Talwandi Sabo Thermal Power Plant project, earning recognition for rapid career progression and outstanding performance.

Academic Research:

- **Research Focus:** Specialized in atmospheric dynamics, focusing on diffusion processes and meandering phenomena to better understand and predict atmospheric behavior.
- **Innovative Contributions:** Developed advanced models that improved prediction accuracy by 98%, utilizing comprehensive data sets from both the U.S.A. and India.
- **Published Work:** Authored several papers in top-tier international journals, garnering recognition and citations from the global scientific community.
- **Collaborative Efforts:** Worked alongside leading experts and professors at IIT Delhi, contributing to multidisciplinary research projects and advancing the field of atmospheric science.

Teaching Experience:

- Conducted lab classes for undergraduate and graduate students, ensuring a comprehensive understanding of mechanical engineering principles.
- Designed and prepared assignments and tests, tailored to assess and enhance students' learning effectively.
- Evaluated and graded assignments and tests, providing constructive feedback to promote academic growth.
- Maintained a friendly and approachable demeanor, making complex topics accessible and engaging for students.

Bringing together hands-on experience in project management with cutting-edge research skills and extensive teaching experience, I offer a holistic approach to engineering and analytical challenges. I am eager to leverage my diverse background to drive innovation and make meaningful contributions across various domains.

I am open to opportunities that challenge me to utilize my technical skills, research capabilities, and passion for education and innovation to contribute positively to the organization and society.

Python, R, MATLAB, or Fortran.

Problem Solving: Demonstrated ability to solve complex data-related challenges by employing analytical techniques and critical thinking skills.

Data Visualization: Ability to create clear and informative visualizations of scientific data.

Technical Writing: Strong written communication skills for preparing research papers, reports, and documentation, with the ability to convey complex technical concepts clearly and concisely to diverse audiences.

Proficient in Microsoft Office Suite (Word, Excel, PowerPoint, Outlook) for efficient documentation, data analysis, and presentation preparation.

Technical Skills: Project management, mechanical engineering, atmospheric modeling, data analysis, spectral modeling, quality management.

Research Skills: Experimental design, data collection and analysis, scientific writing, publication in peer-reviewed journals, interdisciplinary collaboration.

Teaching Skills:

Lab Instruction: Conducted hands-on lab sessions, fostering practical understanding of engineering concepts.

Assignment and Test Design: Created and administered assignments and tests to evaluate and enhance student learning.

Student Evaluation: Assessed and provided constructive feedback on assignments and tests, contributing to academic development.

Student Engagement: Utilized a friendly and approachable teaching style to make complex topics accessible and engaging.

Planning and Project Management: Proficient in project

WORK EXPERIENCE

SENIOR RESEARCH FELLOW , INDIAN INSTITUTE OF TECHNOLOGY, DELHI, NEW DELHI
June 2014 - Aug 2023

• Expert in Atmospheric Science focusing on Boundary Layer Meteorology and Numerical Modeling.
• Proficient in Applied Mathematics and Air Quality Analysis, targeting atmospheric issue mitigation.
• Conducted groundbreaking research on the turbulent structure of the atmosphere using spectral analysis techniques, leading to novel insights into meandering phenomena in low-frequency spectra of horizontal wind components.
• Developed and validated modified formulations for the Eulerian Auto-correlation function (EAF), reducing root mean square error (RMSE) by 72–77% and achieving 98% accuracy in computing meandering parameters.
• Investigated meandering effects under low and moderate wind conditions across multiple sites, providing critical data for understanding atmospheric dynamics in various environmental contexts.
• Established robust parametrizations for turbulent parameters, enabling accurate estimation of surface fluxes and dispersion characteristics in tropical regions, contributing to advancements in dispersion modeling and air pollution studies.
• Analyzed stability-correction functions for wind speed and temperature under stable conditions, recommending optimized non-linear forms for improved accuracy in estimating surface fluxes.
• Published research findings in reputable international journals, showcasing expertise in atmospheric science and contributing to the global body of knowledge.
• Awarded prestigious Senior Research Fellowship by the Government of India.

PLANNING & BILLING INCHARGE at L&T (Larsen & Toubro Ltd.) For the Project- Talwandi Sabo Thermal Power plant, Village Banawali, Distt. Mansa, Punjab
Aug 2011 to Aug 2013

• Proficient in EIP billing system and contract review, ensuring accuracy and compliance.
• Expertise in integrating project schedules and monitoring progress for efficient execution.
• Responsible for preparing and reviewing Accepted Cost Estimates and Job Cost Reports.
• Coordinated with regional and headquarters offices to procure materials and resources on time.
• Synchronized department activities to achieve planned cycle times and overall schedule.
• Provided project control information to customers and internal stakeholders as per contract requirements.
• Prepared schedules and reports for Project Management Control Systems (PMS) and Material Planning and Control Systems (MPCS).
• Monitored progress and highlighted variances in cycle times for different work activities.
• Managed invoicing processes and prepared work orders and amendments for subcontract works.
• Conducted monthly reconciliation of subcontractor bills and periodic reconciliation of customer billing versus subcontractor billing.
• Oversaw reconciliation of materials and resources and prepared actual resource schedules based on progress achieved.

EDUCATION

Ph.D., INDIAN INSTITUTE OF TECHNOLOGY, DELHI , NEW DELHI
2023

• Led groundbreaking research on atmospheric turbulence dynamics, critical for atmospheric surface layer diffusion modeling.
• Utilized advanced spectral analysis to uncover new meandering phenomena in horizontal wind component spectra.
• Introduced novel formulations, improving meandering parameter computation

Billing and Invoicing: Expertise in billing processes, including invoicing, cost tracking, and financial reporting, utilizing the EIP billing system.

Contract Management: Experience in contract review, compliance, and negotiation, ensuring alignment with project requirements and service agreements.

Resource Coordination: Proven ability to coordinate with regional and headquarters offices to procure materials and resources on time, optimizing project efficiency.

Client Communication: Effective communication skills in liaising with clients, providing project control information, and addressing queries or concerns in a timely manner.

Team Collaboration: Collaborative approach in synchronizing activities across departments to achieve planned cycle times and overall project schedule.

LANGUAGES

ENGLISH

HINDI

PUNJABI

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accuracy by 72–77%, achieving 98% precision.
• Contributed to enhanced dispersion modeling and air pollution studies with significant relevance to the Indian environmental context.
• Established foundational parametrizations for turbulent parameters, enabling precise surface flux and dispersion estimations in tropical regions.
• Advanced scientific understanding of atmospheric turbulence, providing practical solutions for environmental challenges.
• Embodied innovation and impact throughout my Ph.D., aiming to transform atmospheric modeling practices in future endeavors.

RESEARCH PUBLICATIONS IN INTERNATIONAL JOURNALS

Analysis of Observational Characteristic Features of the Eulerian Autocorrelation Function in Low and Moderate Wind Conditions.
Boundary-Layer Meteorology 184:531–549. | Aug 2022

On stability correction functions over the Indian region under stable condition
Meteorological Applications 27(1). e1880.ISSN 1350-4827. | Apr 2020

Bachelor of Technology, GZSCET BATHINDA, BATHINDA, PUNJAB
2011

• Earned a Bachelor of Technology in Mechanical Engineering from Government Engineering College (G.Z.S.C.E.T.), Bathinda, India, with a notable score of 81.41%.

HSC (CBSE), LRS DAV SCHOOL ABOHAR, ABOHAR, PUNJAB
2006

• Achieved 87% in HSC (CBSE) from DAV Sr. Sec. Model School, Abohar (2006).

SSC (CBSE), LRS DAV SCHOOL ABOHAR, ABOHAR, PUNJAB
2004

• Achieved 91% in SSC (CBSE) at DAV Sr. Sec. Model School, Abohar (2004).

INTERNSHIPS:

Guru Nanak Dev Thermal Plant (GNDTP), Bathinda
1 June 2009 - 31 July 2009
Project Title: Working of GNDTP, Bathinda

• Worked on maintenance of turbine, generators, boiler pressure parts, coal handling plant, and ash handling plant.
• Studied technical aspects and features of main plant equipment.
• Analyzed results and suggested measures to enhance process effectiveness.

Guru Nanak Dev Thermal Plant (GNDTP), Bathinda
1 June 2010 - 31 December 2010
Project Title: Detailed Study of Main Plant Equipments

• Conducted detailed study of steam turbine, boiler furnace, fans, coal mills, and other equipment.
• Analyzed technical aspects and features of main plant equipment.
• Provided analysis-based suggestions to enhance process effectiveness.