

Prateek Arora

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EDUCATION

- New York University, NY**, Ph.D. Candidate, Civil and Urban Engineering, GPA:4/4 *Expected - May 2025*
Selected among 12 Urban Doctoral Fellows across NYU (2021), NYU School of Engineering Fellowship, Visiting Student Researcher at UC Berkeley (2024), Minor in Electrical and Computer Engineering
- Stanford University, CA**, M.S. in Structural Engineering, GPA:3.99/4 *March 2020*
KC Mahindra Scholarship from India (6% selected applicants); Graduate Course Assistant for a class of 36 students
- BITS Pilani, Pilani Campus, India**, B.E. (Hons.) in Civil Engineering, GPA:9.54/10.0 *June 2018*
Ranked 1st in Civil Engineering class of 90 students, Merit Scholarship for top 3% students, O.P. Jindal Engineering and Management Scholar (2016)

PROFESSIONAL EXPERIENCE

- New York University** Jan 2021 - Present
Graduate Assistant New York, NY
- Developed methods for quantification of hurricane-induced power outages during early warning
 - Conducted research on the resilience and economic benefits of the adoption of renewables for next 25 years (solar panels)
 - Selected as Coalition of Disaster Resilient Infrastructure Fellow; 15 out of 160 selected research proposals
 - Published research in peer-reviewed journals as first author; presented at an international conference and an invited talk
 - Taught a graduate class of 13 students and an undergraduate class of 16 students
- Rivera Consulting Group, Inc.** May 2020 - December 2020
Staff Engineer San Francisco, CA
- Designed structural connections and coordinated with architects and building engineers for design requirements
 - Conducted analysis for retrofit of existing Steel-Frame, Unreinforced Masonry, and Wood-Frame Buildings
- Thornton Tomasetti, Inc.** June 2019 - September 2019
Structural Engineering Intern San Francisco, CA
- Prepared reports for gravity and lateral loading for high-rise buildings according to building codes
 - Reviewed structural shop drawing submittals from contractors to ensure the structural requirements
- CSIR-Structural Engineering Research Centre** July 2017 - December 2017
Research Intern, Structural Health Monitoring Laboratory Chennai, India
- Applied robust statistical methods to account for environmental variability in the localization of damage.
 - Published research article in peer-review journal on damage identification in bridge structures with limited sensors
- Mormugao Port Trust** May 2016 - July 2016
Summer Intern, Civil Engineering Department Goa, India
- Performed Costing and Estimation for a Railway Signaling Building at Mormugao Port.
 - Prepared the report of construction, which included placement of formwork and detailing of steel reinforcement.

JOURNAL PUBLICATIONS

- Arora, P. and Ceferino, L.: A Quasi-Binomial Regression Model for Hurricane-Induced Power Outages during Early Warning, ASCE–ASME Journal of Risk and Uncertainty Analysis in Engineering Systems (2024), Accepted
- K Lakshmi, Prateek Arora, and A Rama Mohan Rao, A Global-Local Damage Diagnostic Approach for Large Civil Structures with Very Limited Sensors, International Journal of Structural Stability and Dynamics (2024)
- B. Pachev, P. Arora, C. del-Castillo-Negrete et al., A framework for flexible peak storm surge prediction. Coastal Engineering (2023), doi: <https://doi.org/10.1016/j.coastaleng.2023.104406>
- Arora, P. and Ceferino, L.: Probabilistic and machine learning methods for uncertainty quantification in power outage prediction due to extreme events, Nat. Hazards Earth Syst. Sci., 23, 1665–1683, <https://doi.org/10.5194/nhess-23-1665-2023>, 2023

Singh M, Yadav S, Hussain S, Arora P, Srivastava A. Reliability-based mix design of marble dust incorporated concrete and its assessment using the concept of performance index. *Structural Concrete*. 2022 <https://doi.org/10.1002/suco.202100501>

CONFERENCE PAPER AND PRESENTATIONS

Prateek Arora, Luis Ceferino, A performance-based probabilistic framework to model risk to power systems from hurricanes, 14th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP14), Dublin, Ireland, 2023.

Prateek Arora, Luis Ceferino, Could rooftop solar panels and storage have enhanced the electricity resilience during Hurricane Isaias (2020)?, 14th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP14), Dublin, Ireland, 2023.

Athira G, Sanket R, Aniruddha T, Prateek A, and Bahurudeen A, "Assessment of Sustainable Alternative Cementitious Materials Using Characterisation Techniques", *Proceedings of Civil Engineering Conference-Innovation for Sustainability; CEC- 2016, NIT Hamirpur; 9-10 Sept. 2016; pp 430-445*

WORKSHOP PARTICIPATION AND TALK

Prateek Arora, Luis Ceferino, A performance-based probabilistic framework to model risk to power systems from hurricanes, 14th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP14), Dublin, Ireland, 2023.

Prateek Arora, Luis Ceferino, Could rooftop solar panels and storage have enhanced the electricity resilience during Hurricane Isaias (2020)?, 14th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP14), Dublin, Ireland, 2023.

Athira G, Sanket R, Aniruddha T, Prateek A, and Bahurudeen A, "Assessment of Sustainable Alternative Cementitious Materials Using Characterisation Techniques", *Proceedings of Civil Engineering Conference-Innovation for Sustainability; CEC- 2016, NIT Hamirpur; 9-10 Sept. 2016; pp 430-445*

HONORS AND AWARDS

Coalition of Disaster Resilient Infrastructure Fellowship <i>Resilience of Power Grid with Renewables to Hurricanes in a Changing Climate</i>	2022
New York University Tandon School of Engineering Fellowship <i>Doctoral Studies in the field of Disaster Risk and Resilience of Urban Environments</i>	2021
New York University Urban Doctoral Fellowship <i>Fellowship to 12 Doctoral Students working towards the development of Urban Cities</i>	2021
K.C. Mahindra Fellowship <i>Fellowship to 82 out of 1200 applicants from India to pursue graduate studies in USA</i>	2018

ACHIEVEMENTS

- Recipient of O.P. Jindal Engineering and Management Scholarship awarded for academic and leadership excellence, 2016
- Recipient of Merit Scholarship (awarded to top 3 percent students in a class across all disciplines) at BITS Pilani
- Qualified National Standard Examinations in Chemistry and was among the 300 students from India to be eligible for Indian National Chemistry Olympiad (INChO), 2013
- Secured position among top 1 percent students from Rajasthan State in National Standard Examinations in Physics, conducted by Indian Association of Physics Teacher, 2013

TEACHING RESPONSIBILITY

Teaching Assistant, to Professor Luis Ceferino January 2023 - May 2023
Civil and Urban Engineering, New York University New York, NY

- Led discussion and tutorial sections for class of 16 students on structural analysis
- Led discussion and delivered lecture for class of 13 students on Disaster Risk Analysis and Urban Systems Resilience
- Conducted weekly office hours to assist graduate students with weekly assignments and class project

Graduate Course Assistant, to Professor Anne Kiremidjian January 2020 - March 2020
Structural Engineering, Stanford University Stanford, CA

- Led discussion and tutorial sections for class of 26 students on Introduction to Performance Based Earthquake Engineering
- Conducted weekly office hours to assist graduate students with weekly assignments and class project

Tutorial Section Leader
Construction Planning and Technology, BITS Pilani

February 2017 - April 2017
Pilani, India

- Delivered Lecture to junior class on designing in Revit Architectural for the Construction Planning and Technology Course

MENTORSHIP

Graduate Mentor for Capstone Project, New York University January 2023 - May 2023

- Mentored diverse group of three graduate students for capstone at Center for Urban Science and Progress
- Team successfully leveraged satellite data with machine learning for power outage predictions to hurricanes

Summer Undergraduate Research Program, New York University June 2022 - August 2022

- Mentoring two undergraduate students to study power outage prediction tool and the scalability of solar energy

Mentor to Master's Student, New York University January 2022 - May 2022

- Mentored graduate students to understand the risks to the power system from hurricanes
- Team leveraged urban nightlight images to identify the power outages

Seismic Design Competition, Earthquake Engineering Research Institute October 2021 - May 2022

- Mentored undergraduate students for the seismic design competition at the National Engineering Earthquake Conference
- Led the team for seismic analysis of a high rise building in using structural software ETABS

POSITION OF LEADERSHIP

President, Civil Engineering Association, BITS Pilani January 2018 - May 2018

Publicity Coordinator, Civil Student Society, BITS Pilani August 2016 - May 2017

SKILLS

Certification FE Civil; NCEES Confirmation ID - 20-166-28
Softwares ArcGIS, MATLAB, Python, ETABS, SAP2000, ABAQUS, ANSYS, MathCAD, RISA, Revit, AutoCAD
Machine Learning, MS Project, STAAD.Pro, Adobe Photoshop, DYNAMO, C++

EXTRA-CURRICULAR ACTIVITIES

- National Level Finalist for Ad-Mania, at Interface (Annual Festival, Department of Management, BITS Pilani) 2017
- Worked for National Service Scheme School and taught students of class 10th and 12th from nearby rural area of Pilani
- Student Member of Indian Concrete Institute, Aug 2016 – Aug 2017
- Volunteered in Blood donation camp and Junoon, a two-day sports meet organized for specially abled people