

# Shannay Rawal

Columbus, OH | [LinkedIn](#) | [ORCID](#) | +1 (614) 483-5603 | [Work email](#) | [Personal email](#)

## EDUCATION

### The Ohio State University

*Master of Science in Environmental Engineering*

**Columbus, OH**

*August 2022- present*

- NSF EmPOWERment Research Traineeship Program fellow
- Courses taken in AY 2023-24:
  - (SP 2024) CIVILEN 6880: Civil Engineering Seminar
  - (SP 2024) PUBHEHS 7375: Quantitative Microbial Risk Assessment Modeling
  - (SP 2024) PUBAFTS 8620: Innovating for Sustainable Energy Systems
  - (AU 2023) GEOG 5210: Fundamentals of GIS
  - (AU 2023) ENR 7380: Climate and Society
- Courses taken in AY 2022-23:
  - (SP 2023) ENVENG 5170: Sustainable Pollution Prevention Practices
  - (SP 2023) ENVENG 5600: Science, Engineering, and Public Policy
  - (AU 2022) ENVENG 6020: Foundations of Data-Driven Sustainable Energy Systems
  - (AU 2022) ENVENG 6200: Fundamentals of Environmental Engineering

### NSF Research Traineeship program

*RISE Summer Program*

**Columbus, OH**

*May- July 2022*

- Assisted in the development of a Carbon Capture and Storage module for the US version of the Global Change Analysis Model

### NMIMS University

*B. Tech Mechanical Engineering*

**Shirpur, India**

*2020*

- Led a team of 58 volunteers as Head Student Representative in ICEMEM 2019: 2nd International Conference on Emerging trends in Manufacturing, Engines, and Modelling hosted at NMIMS Shirpur.
- Won Best Paper Presentation at International Conference on Recent Trends in Science and Engineering, June 2018. (CRSE 2018)
- Research contributions
  - **Rawal, S.**, & Ramachandran, M. (2020, March). [Effect of fire retardancy materials in fiber reinforced composite plate for false ceilings-A Review](#). In *IOP Conference Series: Materials Science and Engineering* (Vol. 810, No. 1, p. 012023). IOP Publishing.
  - Roy, S., Pal, A. K., & **Rawal, S.** (2020, March). [A review on straightening of bars and application of the probabilistic approach on Moment-curvature relationship](#). In *IOP Conference Series: Materials Science and Engineering* (Vol. 810, No. 1, p. 012080). IOP Publishing.
  - Fegade, V., **Rawal, S.**, & Ramachandran, M. (2020, March). [Metamodel-based parametric study of composite laminates](#). In *IOP Conference Series: Materials Science and Engineering* (Vol. 810, No. 1, p. 012051). IOP Publishing.
  - **Rawal, S.**, Ramachandran, M., Fegade, V., & Ragavendran, U. (2018). [Simplification of Home Automation System Using Various Sensors, Actuators, and Control Systems](#). *International Journal of Engineering & Technology*, 7(3.1), 174-177.

### Central Board of Secondary Education

*AISSCE*

**Vadodara, India**

*2016*

- Selected for national summer camp hosted by Duke University's Talent Identification Program (TIP)
- Qualified for internationals at MaRRs Spell Bee 2012-13
  - First rank in the state round
  - Seventh rank in the national round
  - Finalist in the international round
- Certificate of High Distinction in Australian National Chemistry Quiz 2014, 2013, and 2010.

## WORK EXPERIENCE

### Energy Sustainability Research Laboratory

*Graduate Research Associate*

**Columbus, OH**

*May 2022- Present*

- Ongoing research:
  - Techno-Economic Assessment and Life-Cycle Analysis of Underground Hydrogen Storage in saline aquifers for seasonal energy storage.
- Previous research areas:
  - Marginal Abatement Cost projection integration for mid-western US in the [DRFEWS project](#), a regional Food-Energy-Water Systems model
  - Scoping study for integrating Carbon Capture and Storage in [GCAM](#), an Integrated Assessment Model

### Global Centre for Environment and Energy

*Jr. Research Assistant*

**Ahmedabad, India**

*July 2020- May 2022*

- Research activities undertaken at the Centre:
  - Led a funded research project on the Carbon Capture, Utilization, and Storage (CCUS) potential in Gujarat, India.
  - Report on assessing the urban climate actions of 110 smart cities in India with IPCC TSU scientists.
  - Working paper on assessing decarbonization pathways for India using the GACMO model with scientists from UNEP-DTU.
  - Journal article on Surat's potential decarbonization pathways as a part of the [Opportunities for Climate Mitigation and Sustainable Development \(OPTIMISM\)](#) project.
  - Supported a topical article titled "[Demand side climate change mitigation actions and SDGs: a literature review with systematic evidence search](#)" in literature review and analysis.
- Outreach activities undertaken at the Centre:
  - Cohosting "Climactic Conversations," a climate change podcast with Stepwell Radio at Ahmedabad University.
  - Organized "COVID-19, Climate Change, and Cities: Learnings from the Pandemic", a regional workshop.
  - Sole Indian partner for "[Global Climate Dialogs 2021: Solve Climate by 2030](#)", an outreach program hosted at Bard College.

### Oust Labs

*Business Development intern*

**Bengaluru, India**

*May 2020- June 2020*

- Worked on automating the in-house business development framework for data analysis and report generation. Singlehandedly created a system tailored to MS Excel and PowerPoint client reporting requirements to eliminate staff retraining.

## STUDENT CHAPTERS

### ASME

**NMIMS Shirpur Chapter**

*2017-2020*

- Chapter Head for Event Design and Documentation for 2019-20.
- Committee Head- Documentation for 2018-19.
- Committee member- Documentation for 2017-18.

### AIIESEC in NMIMS Shirpur

**Shirpur, India**

*2016-2018*

- Steering Committee- Growth Hacker, Head of Business Development (November 2017- June 2018)
- Transitional lead- Business Development and Corporate Relations (June 2017 – November 2017)
- Delegation head for AIIESEC in NMIMS Shirpur at three national conferences (NLDS 2017, SLDC 2017, JNC 2017), where over 40 delegates were under my supervision.
- Part of the experience delivery team (OC Flintstones) at SLC 2017, the most successful local conference under AIIESEC in Indore since 2015.
- Committee Co-Head in Sponsorship and Documentation departments for Youth Speak Forum 3.0 in 2017, the chapter's annual flagship event.

## STANDARDIZED TEST SCORES

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### The Ohio State University Oral Proficiency Assessment

Columbus, OH  
13 April 2023

Certification Level	Score	Description
C4 (Certified)	4.25 / 5	Teach a course independently and serve as the sole course instructor

### TOEFL

Ahmedabad, India  
8 January 2022

Section	Score
Reading	30 / 30
Listening	30 / 30
Speaking	27 / 30
Writing	29 / 30
Total	116 / 120

### GRE

Vadodara, India  
4 February 2022

Section	Score	Percentile
Verbal Reasoning	158 / 170	79
Quantitative Reasoning	161 / 170	74
Analytical Writing	4.0 / 6.0	54
Total	319 / 340	

## SKILLS

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**Skills:** MATLAB (5/5), ArcGIS Pro (4/5), SimaPro (5/5), Autodesk Fusion 360 (4/5), Solidworks (4/5), AutoCAD (4/5), ANSYS (4/5), [GACMO model](#) (5/5), Tableau (5/5), R project (3/5), Microsoft Office (5/5)