SAURAV KUMAR NIDHI

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 Saurav Kumar Nidhi | Kumarsaurav9049 Rᶜ Saurav Kumar Nidhi

Patna, Bihar - 801106, India

EDUCATION

- **Indian Institute of Technology Patna** *Aug 2023 - Jun 2025*

  Masters in Structural Engineering Patna, India

  ◦ Tentative Thesis Title: *Flexural Behaviour and Strengthening of Corroded Reinforced Masonry Slabs: An Analytical and Experimental Investigation*

  ◦ Supervisor: Dr. Vaibhav Singhal (IIT Patna, Patna)

  ◦ Collaborator: Prof. Thanasis C. Triantafillou (University of Patras, Greece)

  ◦ CGPA: 9.17/10.00 []

- **Sagar Institute of Science and Technology (SISTec), (RGPV)** *Aug 2018 - Jun 2022*

  Bachelors in Civil Engineering Bhopal, India

  ◦ Major project: *Seismic Analysis and Design of G+3 Institutional building using ETABS Software.*

  ◦ Minor project: *Groundnut Shell Ash and Silica Gel as Partial Cement Replacement in Concrete Groundnut Shell Ash and Silica Gel as Partial Cement Replacement in Concrete.*

  ◦ CGPA: 8.94/10.00 []

- **+2 High School Kako** *May 2017, 2018*

  Pre-university Education Jehanabad, India

  ◦ Grade: 62% []

- **Brilliant Public School** *May 2015*

  Schooling Education Jehanabad, India

  ◦ CGPA: 9.6/10.00 []

EXPERIENCE

- **Indian Institute of Technology Mandi []** *Aug 2022 - Jun 2023*

  Research Assistant Mandi, India

  ◦ Developed duffing equation approach to study the lightweight membrane structures.

  ◦ Developed the Analytical solution for the vibration of linear and nonlinear membranes subjected to blast load.

  ◦ MATLAB code has been developed for the analysis of membranes.

- **Agrawal Builders []** *Feb 2022 - March 2022*

  Graduate Engineer Trainee (GET) Bhopal, India

  ◦ Developed automated Excel file for the bar bending schedule for the Rat Foundation.,

  ◦ Material requirements schedule.

  ◦ Site investigation and quality control.

PROJECTS

- **Development of MATLAB-Based Software for Retrofitting** *May 2024 - Jun 2025*

  Tools: MATLAB, Excel []

  ◦ Calculates the moment capacity of the existing flexural system.

  ◦ Performs reduction calculations based on corrosion levels.

  ◦ Determines the required amount of strengthening.

- **MATLAB Code for Linear and Geometric Nonlinear Analysis of Planar Trusses** *May 2024 - Jun 2025*

  Tools: MATLAB, LaTeX []

  ◦ Developed a nonlinear finite element method (FEM) code for truss analysis.

  ◦ The code calculates stress, strain, joint deformation, and the deflected shape of the truss.

Patents and Publications

[C.1] **Nidhi, S. K.**, Singhal, V., Triantafillou, T. C.. **Flexural Performance of Reinforced Brick Slab: An Analytical and Experimental Investigation**. In *ASAGE'25*, *(Accepted for Publication)*

[J.1] Singhal, V., **Nidhi, S. K.**, Triantafillou, T. C.. **Design and Evaluation of Deteriorated and Strengthened Reinforced Masonry Slabs: An Analytical Approach**. *(on verge of Submission)*.

[J.2] **Nidhi, S. K.**, Singhal, V., Triantafillou, T. C.. **Investigation of Flexural Performance and Strengthening of Corroded Reinforced Brick Slabs: An Experimental Study**. *(In Preparation)*.

[J.3] **Nidhi, S.K.**, Singhal, V., Triantafillou, T. C. **Influence of Corrosion on the Bond Stress-slip behaviour in Reinforced Masonry**. *(In Prepartion)*.

Skills

- **Programming Languages:** MATLAB, Python (Basic stage)
- **Web Technologies:** WordPress, HTML, CSS
- **Database Systems:** MySQL
- **Data Science & Machine Learning:** Python (NumPy, Pandas) (Basic stage)
- **DevOps & Version Control:** GitHub
- **Specialized Areas:** Accelerated Corrosion, Masonry, Concrete, NDT Test, Structural Analysis, Long Term Behavior, Earthquake & Blast Loads
- **Mathematical & Statistical Tools:** MATLAB, Octave, Maxima, Wolfram Mathematica, Excel
- **FEM Softwares:** ETABS, SAP2000, Abaqus
- **Other Tools & Technologies:** AutoCAD, SketchUp, CorelDraw, Inkscape, Kaleidograph, Origin, Veusz
- **Research Skills:** Literature Review, Data Analysis, Experimentation, Report Writing, Statistical Analysis

Honors and Awards

- **Academic Excellence Award** *March 2022*
  SISTec
  - Best student awards for the 3rd and 5th semester.

- **Economical Category of NIRMAN** *2021*
  NIRMAN, SISTec
  - 2nd Best economical product (for idea of partial cement replacement with Groundnut shell ash (GNSA) and Silica Gel (SG)

- **Best Presentation on the technical Specifications in the Raja Bhoj cable span bridge** *2022*
  Sagar Fiesta Technical, SISTec
  - Awarded by the Professor of MANIT Bhopal.

Leadership Experience

- **Assistant Head Coordinator** *Feb 2024 - Aug 2024*
  Training and Placement cell/Indian Institute of Technology Patna
  - Invitation to the recruiters of various civil engineering the companies for the students of IIT Patna.
  - Companies database creation.

- **President** *Jan 2021 - Jan 2022*
  Federal Association of Civil Engineering (FACE)/SISTec
  - Conducted various workshops and technical programs.
  - Technical quizzes on the inter-college level.
  - Launched the various traditional games of India.

- **Vice-President** *Jan 2020 - Jan 2021*
  Federal Association of Civil Engineering (FACE)/SISTec
  - Insisted the president on various committee formations.
  - Bhule bishre khel has been organised at the college level.

VOLUNTEER EXPERIENCE

• **Developer of the ASAGE'25 International Conference Website** 2024-2025
International conference on Advances in Structural and Geotechnical Engineering, Indian Institute of Technology Patna [🌐]
  ◦ Development of the conference website.
  ◦ Core organizing student member of ASAGE'25 Conference.
  ◦ Managing all the technical work at the student level.

• **Technical Session coordinator of Conference** 2023
67th Indian Society Of Theoretical and Applied Mechanics (ISTAM) [🌐]
  ◦ Management of the technical session presentation.
  ◦ Ensure that the submitted paper works.

PROFESSIONAL MEMBERSHIPS

• **American Society of Civil Engineers** Student Member, Membership ID: 12263870 *Dec 2021 - Present* .
• **American Concrete Institute** Student Member, Membership ID: 2328561 *Mar 2025 - Present* .

CERTIFICATIONS

• **CCE IIT Mandi:** Finite Element Modelling for the Engineers

• **IIT Indore:** Short Course of the Geo technical Aspects of the Earthquake Engineering

• **NIT Raipur & SSIMPT:** Advances in Geo-technical, Mining and Geology

• **SISTec:** Construction ERP for the Civil Engineers using the Hit-office Software

ADDITIONAL INFORMATION

• **Languages:** Hindi, English

• **Interests:** Developing Websites and Software's, Watching Documentaries

DECLARATION

I hereby declare that the information provided above is accurate and true to the best of my knowledge and belief. I understand that any misrepresentation or omission of facts may lead to the rejection of my application or dismissal from the position if discovered later.

Place: IIT Patna

Signature: Saurav Kumar Nidhi

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