Nitya Kasera
LinkedIn - Portfolio

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EDUCATION

- **Indore Institute of Science and Technology** **Indore, India**
  Bachelors of Technology [B.Tech.] Chemical Engineering CGPA: 8.7 *September '20- Present*

EXPERIENCES

- **Indian Institute of Technology Indore** **Indore, India**
  Research Internship *September'23- November'23*
  - Engaged in a research internship at the SEEM Lab, Department of Metallurgical Engineering and Materials Science, IIT Indore, with a primary focus on supercapacitors. Collaborated with a multidisciplinary team to design and optimize supercapacitor materials, conducted experiments, and contributed to ongoing projects, demonstrating dedication to advancing energy storage technologies.
  - Acquired in-depth knowledge of supercapacitor technology, including material synthesis and characterization techniques. Developed skills in experimental design, data analysis, and problem-solving. Gained insights into the broader applications of metallurgical engineering in energy storage, enhancing my expertise in materials science and contributing to advancements in sustainable technology.

- **Indian Institute of Technology Roorkee** **Uttarakhand, India**
  Research Internship *May' 23- July' 23*
  - Engaged in IIT Roorkee's esteemed Spark 2023 Summer Internship/Research Fellowship program, conducting groundbreaking research on silica and lignin extraction from rice straw.
  - Showcased proficiency in agricultural waste utilization, contributing to sustainable materials development.
  - Demonstrated hands-on skills and research acumen in a renowned academic setting.

- **Indian Institute of Chemical Engineers** **Kolkata, West Bengal**
  Online Internship *March' 23- April ' 23*
  - Immersed in a dynamic internship at the crossroads of Artificial Intelligence and Machine Learning (AIML) in Chemical Engineering. Implemented AIML algorithms using MATLAB, acquiring hands-on experience in data analysis and optimization.
  - Contributed to innovative solutions, honing skills at the intersection of technology and chemical engineering. The experience enriched my understanding of leveraging AIML for enhanced problem-solving in the field.

- **Aditya Birla Group's Grasim Industries, Chemical Division** **Nagda, India**
  Industrial Intern *July' 22*
  - Acquired hands-on expertise in Poly Aluminium Chloride (PAC) production, optimizing plant processes with theoretical knowledge for efficient manufacturing. Proficient in troubleshooting and quality control, actively contributing to enhanced plant productivity.
  - Gained valuable insights into industrial chemical processes, fostering a deeper understanding of PAC production complexities. This experience enriched my skills in operational efficiency and quality management within the industrial chemical manufacturing landscape.

ACADEMIC PROJECTS

- **Extraction of Silica from Agricultural Waste**
  - Developed an innovative method for extracting high-purity nano-silica from rice husk, addressing environmental and disposal challenges.
  - Pioneered a green solution utilizing alkali extraction and acid preparation techniques, potentially contributing to a new industrial sector in India's second-largest rice-producing country.
- **Utilizing Perovskite for Low-Cost Solar Cells with Improved Efficiency**
  - Spearheading transformative research on perovskite for revolutionary, low-cost, and highly efficient solar cells.
  - Demonstrating dedication to advancing sustainable energy by actively shaping cutting-edge experimentation and crafting a groundbreaking research paper.

- **Synthesis of Magnetite Magnetic Nanoparticles using Watermelon Rinds**
  - Led pioneering research at IIST, synthesizing magnetite nanoparticles from watermelon rinds, demonstrating hands-on expertise in materials science through precise experiments.
  - Spearheading a groundbreaking review paper at the intersection of technology and natural resources, showcasing a comprehensive understanding of the nexus between these domains.

PUBLICATIONS

- N. Kasera, G. Chatterjee, R. Bhargava, Dr. S. Singh, "Alternative Energy and Storage: 2021 to 2025", 2022 published in the book titled Trends in Modern Technology and Engineering with ISBN 979-8427314886 (2022)
- Co-author in a paper titled "Valorisation of Biomass" (Under Preparation)

CONFERENCES AND WORKSHOPS

- Attended workshop organized by Department of Chemical Engineering, IPS Academy and sponsored by SERB. The theme of the event was "Carbon Neutrality for Sustainable Development: Challenges and Advances". (2023)
- Attended and presented my theoretical research work at SCHEMCON 2022, organized by NIT Warangal and Indian Institute of Chemical Engineers, Hyderabad Regional Centre. The event focused on "Sustainable Technological Advancements in Chemical Industries 2022." (2022)
- Attended and presented my research work in SCHEMCON 2021 Organized by MANIT and IISER Bhopal. The event was themed as Advancements in "Alternative Energy and Storage (2021-2025)". (2021)
- Secured the first position in the National Level Technical Paper Presentation organized by the Department of Chemical Engineering at the Indore Institute of Science and Technology. The event was themed 'Innovations in Alternative Energy and Storage (2021-2025). (2021)

CERTIFICATION COURSES

- Computational Fluid Mechanics - Airflow Around a Spoiler an online non-credit course offered through Coursera. (2023)
- Chemicals and Health an online non-credit course authorized by Johns Hopkins University and offered through Coursera. (2021)
- Materials Science: 10 Things Every Engineer Should Know an online non-credit course authorized by University of California, Davis and offered through Coursera. (2021)

TECHNICAL SKILLS/ SOFTWARES

- AUTOCAD- P&ID, CHEMCAD, AFT Fathom, SPSS – Software

ACADEMIC MEMBERSHIPS

- Indian Institute of Chemical Engineers
- American Institute of Chemical Engineers

EXTRA CURRICULAR ACTIVITIES & POSITION OF RESPONSIBILITIES

- President of the Society for Contemporary Affairs (The Lexicon Club) of college
- Group Lead of Academic Project in third year
- Backstage lead at college's cultural fest- Dazzle 2022 & 2023