

# Dr. Shipra Choudhary

Ph.D. Physics

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## ABOUT ME

Dedicated and accomplished physicist with a Ph.D. in Physics, specializing in Material Sciences. Adept at leveraging advanced analytical and research skills to contribute to academic excellence. Proficient in Python, SQL, and Tableau, enhancing the ability to integrate cutting-edge technology into teaching methodologies. Eager to bring passion for physics and expertise to the role of Assistant Professor, fostering a dynamic learning environment for students.

## PROFESSIONAL EXPERIENCE

### Labtech Innovations

Research Associate

March 2023 - Present

Pune, India

- Conducted In-Depth Analysis of research papers across various domains, with a primary focus on machine learning, to extract critical insights and trends relevant to ongoing research projects.
- Performed meticulous editing and proofreading of research manuscripts to ensure clarity, coherence, and adherence to academic standards, resulting in successful submissions to peer-reviewed journals.
- Collaborated with interdisciplinary teams to integrate findings from diverse research areas into cohesive studies, enhancing the impact and applicability of the research outcomes.
- Conducted comprehensive literature reviews to support the development of research hypotheses and methodologies, providing a solid foundation for innovative research approaches.

### Access Million @

Data Science Intern

Aug 2023 - Dec 2023

Pune, India

- Building models (regression and classification) to address business problems.
- Performed feature engineering by transforming raw data into features that can be used by ML algorithms.
- Utilized python for data manipulation, analysis, and model implementation.
- Created interactive and visually compelling dashboards using Tableau for enhanced data representation.
- Gained proficiency in SQL for efficient data querying and management.

## SKILLS

### Programming Language

Python, Pandas, Numpy

### Databases

MySQL

### Statistical Analysis

Inferential and Descriptive

### Machine Learning

Supervised and Unsupervised Learning, Clustering

### Data visualization

Tableau, Power BI, Matplotlib, Seaborn, Scikit learn

### Advanced Excel

Lookups, Pivot table, Macro

### Exploratory Data Analysis

Data cleaning and Preprocessing

### Time Series Analysis

Stock Price, Weather Prediction

### IDE/Platforms

Jupyter Notebook, GoogleColab

## EDUCATION

### Doctor of Philosophy (Ph.D, Physics)

Guru Gobind Singh Indraprastha University

Aug 2016 - May 2023

New Delhi, India

**Masters in Science (M.Sc. Physics)**  
Gautam Buddha University

Aug 2014 - July 2016  
Greater Noida, U.P., India

**Bachelors in Science (B.Sc. PCM)**  
H. N. B. Garhwal University

Aug 2011 - July 2014  
Srinagar, U.K., India

## PROJECTS

**Cross-sell Vehicle Insurance Prediction** @  
Associated with Access Million

Jan 2023 - Jan 2023

- Implemented diverse machine learning algorithms, to develop a robust predictive model for customer interest in Vehicle Insurance based on past Health Insurance data.
- Utilized Python for extensive data analysis, preprocessing, and feature engineering, ensuring the model's accuracy and reliability in forecasting customer behavior.
- Employed Tableau for dynamic data visualization, providing insightful dashboards to interpret model outcomes and guide strategic decisions in optimizing communication strategies.
- Applied a comprehensive skill set encompassing Machine Learning, Python, and data analysis to deliver a valuable solution empowering the company to tailor marketing approaches, thereby optimizing revenue streams.

## CERTIFICATES

**Master's in Data Science Certification** @  
Topmentor, ISO Certified

**Machine Learning Certification** @  
Topmentor, ISO Certified

**Tableau Certification** @  
Topmentor, ISO Certified

**Data Analytics Certification** @  
Topmentor, ISO Certified

**Python Certification** @  
Topmentor, ISO Certified

**SQL Certification** @  
Topmentor, ISO certified

## ACHIEVEMENTS

**Doctor of Philosophy (Ph.D, Physics)** @  
Published 17+ research papers in peer reviewed international journals

Aug 2016 - May 2023

**Doctor of Philosophy (Ph.D, Physics)** @  
Awarded esteemed DST Inspire Fellowship  
Issued by Department of Science and Technology, New Delhi

Aug 2017

**Gold Medalist in M.Sc.** @  
Awarded Gold Medal for Academic Excellence

Aug 2014 - July 2016

**Gold Medalist in B.Sc.** @  
Awarded Gold Medal for Academic Excellence

Aug 2011 - July 2014

## RESEARCH PAPERS

1. Enhanced photocatalytic activity of Er doped ZnO nanospindles for degradation of organic pollutants, **Shipra Choudhary**, Satyabrata Mohapatra, *Inorganic Chemistry Communications*, 2024, 111977 (I.F. : 3.428)
2. Facile synthesis of Ce doped ZnO nanowires for efficient photocatalytic removal of organic pollutants from water, **Shipra Choudhary**, Manisha Sharma, Venkata Krishnan and Satyabrata Mohapatra, *Materials Today Communications*, 2023, 34, 105361 (I.F. : 3.665)

3. Facile synthesis of magnetically separable Ag@Fe<sub>3</sub>O<sub>4</sub> hybrid plasmonic nanostructures for catalytic and antibacterial applications, **Shipra Choudhary**, Bandita Mohapatra and Satyabrata Mohapatra, *Chemistry Africa*, 2023, DOI: 10.1007/s42250-023-00593-8 (I.F.: 2.296)
4. Facile synthesis, morphological, structural, photocatalytic and optical properties of ZnFe<sub>2</sub>O<sub>4</sub>-ZnO hybrid nanostructures, **Shipra Choudhary**, Dilruba Hasina, Mahesh Saini, Mukesh Ranjan and Satyabrata Mohapatra, *Journal of Alloys and Compounds*, 2022, 895, 162723 (I.F. : 6.371)
5. Facile synthesis, structural, morphological, photocatalytic and optical properties of CoFe<sub>2</sub>O<sub>4</sub>-ZnO hybrid nanostructures, **Shipra Choudhary**, Manisha Sharma, Venkata Krishnan, Satyabrata Mohapatra, *Ceramics International* (2022) (I.F. : 5.532)
6. Microwave assisted facile fabrication of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/CoFe<sub>2</sub>O<sub>4</sub>/Co<sub>3</sub>O<sub>4</sub> ternary nanohybrid with enhanced photocatalytic activity, **Shipra Choudhary**, Aditi Bisht, Manisha Sharma, Venkata Krishnan, Satyabrata Mohapatra, *Optical Materials* 132 (2022) 112836 (I.F. : 3.754)
7. Facile synthesis, morphological, structural, photocatalytic and optical properties of ZnFe<sub>2</sub>O<sub>4</sub> nanostructures, **Shipra Choudhary**, Aditi Bisht, Manas Kumar Dalai, Satyabrata Mohapatra, *Journal of Material Sciences: Material in Electronics* 32 (2021) 27429-27440 (I.F. : 2.779)
8. Facile synthesis of Ce-doped ZnO nanospindles for photocatalytic applications, **Shipra Choudhary**, Aditi Bisht, Biswarup Satpati, Satyabrata Mohapatra, *Applied Physics A* 197 (2021) (I.F. : 2.983)
9. Rapid synthesis of ZnO nanowires and nanoplates with highly enhanced photocatalytic performance, **Shipra Choudhary**, Kavita Sahu, Aditi Bisht and Satyabrata Mohapatra, *Applied Surface Science* 541 (2021) 148484-148495 (I.F. : 7.392)
10. Microwave-assisted synthesis of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/ZnFe<sub>2</sub>O<sub>4</sub>/ZnO ternary hybrid nanostructures for photocatalytic applications, **Shipra Choudhary**, Aditi Bisht and Satyabrata Mohapatra, *Ceramics International* 47 (2021) 3833-3841 (I.F. : 5.532)
11. Facile synthesis, morphological, structural, photocatalytic and optical properties of CoFe<sub>2</sub>O<sub>4</sub> nanostructures, **Shipra Choudhary**, Aditi Bisht and Satyabrata Mohapatra, *SN applied sciences* 1 (2019) 1613 (I.F. : 2.584)
12. Template-free and surfactant-free synthesis of CeO<sub>2</sub> nanodiscs with enhanced photocatalytic activity, **Shipra Choudhary**, Kavita Sahu, Aditi Bisht, Rahul Singhal and Satyabrata Mohapatra, *Applied Surface Science* 503 (2020) 144102-144112 (I.F. : 7.392)
13. Facile preparation and antibacterial properties of zinc oxide nanobullets, Bandita Mohapatra, **Shipra Choudhary**, Satyabrata Mohapatra and Nimisha Sharma, *Materials Today Communications*, 2023, 34, 105083 (I.F. : 3.665)
14. Facile wet chemical synthesis of ZnO nanosheets: effect of counter ions on the morphological, structural, optical, and photocatalytic properties, Kavita Sahu, **Shipra Choudhary**, Jaspal Singh, Sini Kuriakose, Rahul Singhal, and Satyabrata Mohapatra, *Ceramics International* 44 (2018) 23094-23101 (I.F. : 5.532)

15. Thermal evolution of morphological, structural, optical and photocatalytic properties of CuO thin films, Kavita Sahu, **Shipra Choudhary**, Saif A. Khan, Akhilesh Pandey and Satyabrata Mohapatra, Nano-Structures & Nano-Objects 17 (2019) 92-102 (I.F. : 0.807)
16. Fabrication of Au-CuO hybrid plasmonic nanostructured thin films with enhanced photocatalytic activity, Kavita Sahu, **Shipra Choudhary**, and Satyabrata Mohapatra, Materials Research Bulletin 123 (2020) 110707 (I.F. : 5.116)
17. Thermal annealing induced cave in ad formation nanoscale pits in Ag-TiO<sub>2</sub> plasmonic nanocomposite thin films, Jaspal Singh, Kavita Sahu, **Shipra Choudhary**, Sataybrata Mohapatra, Ceramics International 46 (2020) 3275-3281 (I.F. : 5.532)