

SHIVANSH GUPTA

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EDUCATION

Indian Institute of Technology (ISM), Dhanbad	2023
<i>B.Tech, Petroleum Engineering</i>	<i>7.83 GPA</i>
Nalanda Academy, Kota	2018
<i>Senior Secondary - 12th</i>	<i>87.6%</i>
St. Mary's Senior Secondary School, Banda	2016
<i>Secondary Education - 10th</i>	<i>10 GPA</i>

RESEARCH EXPERIENCE

Indian School of Business (ISB), Pre-Doctoral Researcher	Dec'24 - Ongoing
<i>Department: Information Systems Advisor: Prof. Vasundhara Sharma</i>	<i>Hyderabad</i>

- Conducting a research project on the impact of social movements in the digital world, working on the Github Dataset to assess the impact of LLMs and another project simulating a virtual environment to curb the spread of misinformation in social networks.
- Proposed and developed original research ideas, with several tested through preliminary trials and others pending further exploration
- Designed dynamic surveys with different question types and randomisations on Qualtrics
- Supported supervisor's research by performing data scraping (Selenium), cleaning, analysis, and visualisation in Python; conducted regression analysis in STATA and simulations in R, while also applying NLP techniques and large language models (LLMs) for extracting insights from text data.
- Conducted literature reviews and kept current with research papers in information systems and marketing
- Methodologies: Econometric Analysis, Structural Modelling & Survey.

Directorate General of Mines Safety (DGMS), Project Intern	Aug'22 - May'23
<i>Advisor: Prof. Siddharth Aggarwal</i>	<i>Dhanbad</i>

- Developed data scraping model using re & NLTK libraries for text mining & extracting numerical data from yearly mine fatality PDF reports.
- Created a comprehensive MySQL database to store mine fatality records, enabling effective data processing with pandas.
- Facilitated a comprehensive analysis of root causes of fatalities through data visualization using Plotly and Matplotlib in Python.

Indian Institute of Management (IIM) Udaipur, Research Intern	May'21 - Jul'21
<i>Advisor: Prof. Ashish Galande</i>	<i>Udaipur (Remote)</i>

- Created a structured dataset of Fortune 500 companies' tweets through web scraping using Twint and Scrapy in Python to analyse CSR activities and study principles of conscious capitalism.
- Utilised text analysis and NLP techniques to compute lexical diversity and sentiment scores using NLTK and VADER libraries.
- Preprocessed and vectorised text, and leveraged sentiment scores to develop a sentiment analysis model using RNN in TensorFlow.

RESEARCH

Research Interest

My research interests lie in understanding how digital platforms shape user behaviour, economic incentives, and societal outcomes, with a focus on platform governance and algorithmic bias. I aim to use large-scale data to uncover structural inequities and inform the responsible design of digital systems.

Work In Progress

- Effects of Social Media movements on actual change in bias among students Advisors (with [Prof. Vasundhara Sharma](#), [Prof. Deepa Mani](#), [Prof. Aditya Karanam](#)).
- The Generative AI Dilemma: Enhancing Productivity while Managing Technical Debt in Open Source Development (with [Prof. Vasundhara Sharma](#), [Prof. Aditya Karanam](#)).

Research Assistance

- Platform Design to Curb Misinformation (with [Prof. Vasundhara Sharma](#), [Prof. Ashish Agarwal](#), [Prof. Anitesh Barua](#)).
- Hidden Ads in YouTube Kids Videos and the Impact of Platform Policy Changes (with [Prof. Vasundhara Sharma](#), [Prof. Sumeet Kumar](#)).

Conferences

- [Himanshu Shekhar](#), Shivansh Gupta, [Prof. Siddharth Aggarwal](#)(2019). Automated Analysis through Natural Language Processing of DGMS Fatality Reports on Indian Non-Coal Mines. In the 4th International Conference on Information Systems and Computer Networks.

Patents

- Method and System for Classifying and Detecting True Well Control Events During Drilling Operations. (with [Jaspreet Singh](#), [Somnath Das](#), [Idris Kagdi](#)). Indian Patent Office, Patent No. 202311057956. Status: Published, Under Review

INDUSTRY EXPERIENCE

HCLTech, Data Scientist

Jul'23 - Nov'24

Clients: *Chevron, ExxonMobil*

Bangalore

- Worked with the AIOps team to develop a supervised ML model analysing Azure Virtual Desktop logs to predict issues and automate L1 support processes.
- Built a Generative AI app using GPT-3.5 Turbo, LangChain, and Azure ML to extract structured insights from oil & gas daily drilling reports and convert them into OSDU-compliant JSON.
- Managed data pipelines and dashboards for asset management across 800+ oil & gas wells using Azure Databricks, Power BI, and in-house tools.

HCLTech, Machine Learning Intern

May'22 - Aug'22

Noida (Remote)

- Developed an adaptive ML-based alarm system using Random Forest to detect kicks and blowouts in oil & gas wells, trained on Equinor's Volve dataset.
- Designed a labelling method using daily drilling reports and lithological parameters; performed preprocessing and EDA with pandas and seaborn, and addressed class imbalance using SMOTE.
- Trained and evaluated multiple supervised models using scikit-learn and TensorFlow; patent filed (in progress) for the labelling technique. Received pre-placement offer upon internship completion.

VOLUNTEER WORK

CODE: Conference on the Digital Economy

Jan'25

Volunteer

Varanasi

- Managed venue setup and operations to facilitate 20+ sessions across 3 days, ensuring smooth transitions between speakers
- Coordinated transportation logistics and schedules for visits to different sites across Hyderabad for participants

Teaching

Summer & Winter Session 2022

SPE IIT (ISM) Student Chapter

- Designed a course and taught Machine Learning, Data Science, and Python programming with practical applications to petroleum engineering to First Year Joiners at Society of Petroleum Engineering, IIT (SIM) Dhanbad (2021)

Kartavya, IIT (ISM) Dhanbad

2020 - 2022

NGO Volunteer

Dhanbad

- Taught mathematics to class 9th and 10th children in Dhanbad to help them ace their board exams.

RELEVANT COURSEWORK

PhD Level Coursework

Credited at ISB, Hyderabad

- Multivariate Statistics A, Econometrics A

Undergraduate Coursework

Credited at IIT (ISM) Dhanbad

- Engineering Economics & Finance, Object Oriented Programming, Data mining, Financial Econometrics, Operations Research, Development Economics, Fundamentals of Machine Learning, Data Analytics, International Macroeconomics and Monetary Policy, Reservoir Modelling and Simulation

SKILLS

- **Programming Languages:** C, C++, Python, SQL
- **Framework:** Keras, TensorFlow, Flask, Lang Chain, Gradio, PyTorch
- **Tools:** MS Excel, PowerBI, Azure Cloud (OpenAI Studio, ML Studio, Databricks, Function and Power Apps)
- **Libraries:** matplotlib, seaborn, pandas, NumPy, stats models, NLTK, OpenCV, Plotly, spaCy, Scikit - learn

SELECTED ACHIEVEMENTS

Scholastic Achievements

- Achieved top 10th percentile, Univ.AI Data Science hackathon, displaying analytical prowess with an AIR of 96.
- Earned a Bronze medal in the Otto Group Product Classification Kaggle Competition, showcasing expertise in ML and data classification.
- Summer Undergraduate Research Fellowship, Computer Science Department, IIT (ISM) Dhanbad.
- Merit-cum-Mean (MCM) Scholarship for all 8 semesters of undergraduate studies.

Extra Curricular

- Headed the SPE IIT (ISM) Student Chapter Editorial, securing the 2022 Student Chapter Excellence Award, awarded to only the top 20% of chapters globally.
- Secured 2nd position for writing and directing mono-act & 5th position in stage play as director at InterIIT Cultural Meet '22, outperforming 23 IITs.

EXAM SCORES

- IIT JEE, Advanced - 2019: AIR 7586, 95.3 Percentile among 1.9 Lakh candidates.
- IIT JEE, Mains - 2019: AIR 5497, 99.52 Percentile among 11 Lakh candidates.
- CAT - 2023, 98.06 Percentile
- GRE - 2025, (x/340) y Percentile

REFERENCES

Vasundhara Sharma

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Deepa Mani

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