

# Sourav Saha

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## Education

<b>M.Tech. in Applied Mathematics and Scientific Computing, IIT Roorkee</b> <i>CGPA: 7.40/10.0</i>	2025
<b>M.Sc. in Mathematics and Computing, IIT Guwahati</b> <i>CGPA: 5.99/10.0</i>	2022
<b>B.Sc. in Mathematics(Honors), Gurudas College, University of Calcutta</b> <i>Percentage: 53.36/100.0</i>	2019
<b>Class - XII - New Barrackpore Colony Boys' High School, W.B.C.H.S.E.</b> <i>Percentage: 76.50/100.0</i>	2015
<b>Class - X - New Barrackpore Colony Boys' High School, W.B.B.S.E.</b> <i>Percentage: 88.00/100.00</i>	2013

## Projects

<b>AI-Powered Medical Chatbot with Context-Aware Retrieval</b> <a href="#">GitHub</a> <a href="#">🔗</a>	Dec 2024 - Jan 2025
<ul style="list-style-type: none"><li>Tools Used: LangChain, HuggingFace Embeddings, ctransformers, Pinecone, PyPDFLoader</li><li>Implements Retrieval-Augmented Generation (RAG) using LangChain and Pinecone for medical Q&amp;A.</li><li>Extracts, tokenizes, chunks &amp; embeds medical texts to enable efficient semantic search, retrieval &amp; querying.</li></ul>	
<b>Predictive Modeling of Personality Traits using MBTI Dataset</b> <a href="#">GitHub</a> <a href="#">🔗</a>	Feb 2024 - Apr 2024
<ul style="list-style-type: none"><li>Tools Used: Python, Numpy, Pandas, Matplotlib, Seaborn, Scikit-learn, Word-Cloud</li><li>Preprocessed social media data using TextBlob and NLTK, applying word word2vec tokenization for analysis.</li><li>Used XGBoost, Logistic Regression &amp; Decision Tree, achieved 65.9%, 63.1% &amp; 51.3% accuracy respectively.</li></ul>	
<b>IIT Guwahati Placement Portal</b> <a href="#">GitHub</a> <a href="#">🔗</a>	Sep 2021 - Nov 2021
<ul style="list-style-type: none"><li>Tools Used: PHP, SQL, HTML, CSS</li><li>Collaborated with a team of 2 to develop a placement portal for recruiting companies and students of IITG.</li><li>Captured requirements &amp; business rules to process database, ensuring system functionality &amp; performance.</li></ul>	

## Key Achievements

<b>GATE 2023:</b> Secured a percentile of 90.92, ranking 1133 out of 12463 candidates.	2023
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## Skills and Certification

<b>Programming Languages:</b> Python, SQL, R, MATLAB, C++, C, HTML, CSS
<b>Software Packages:</b> NumPy, pandas, seaborn, matplotlib, scikit-learn, Hugging Face, LangChain, LLMs, Vector Database, TensorFlow, PyTorch
<b>Key Courses:</b> Linear Algebra, Probability and Statistics, Machine Learning, Deep Learning, Data Structure & Algorithm, Optimization Technique, Differential Equations, Database Management System, Graph & Matrices.
<b>Certification:</b> Google Advanced Data Analytics Specialization.

## Positions of Responsibility and Extra Curricular

<b>C.A.C. (Campus Affairs Councils) Member, IIT Roorkee</b>	Sep 2023 - Aug 2024
<ul style="list-style-type: none"><li>Collaborated with a 4-member team to resolve hostel and campus level issues, enhancing student hostel life.</li><li>Organized 4 open workshops at the campus level on mental health for time management &amp; stress handling.</li></ul>	
<b>M.Tech representative, DAMSC, IIT Roorkee</b>	Jan 2024 - present
<ul style="list-style-type: none"><li>Liaised between 25 students and administration, organized 4 events and presented improvement feedback.</li></ul>	
<b>Volunteer at the 12th International conference SOCPROS</b>	August 2023
<ul style="list-style-type: none"><li>Volunteered at the 12th International Conference on Soft Computing for Problem Solving, IIT Roorkee.</li></ul>	