



Manish Ray

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M.Sc - Mathematics and Computing

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EDUCATION

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|------------------------------|--|-----------------|-----------|
| M.Sc Mathematics & Computing | Indian Institute of Technology, Guwahati | 6.3 | 2022-2024 |
| B.Sc Mathematics Hons. | ABN Seal College, West Bengal | 9.55/ 10 | 2019-2022 |
| Higher Secondary | WB Board | 91.6% | 2017-2019 |
| Secondary | WB Board | 90% | 2017 |

EXPERIENCE

• TEDx IIT Guwahati WebOps:

- Developed the TEDxIITGuwahati 2024 website "[Echoes of Stillness](#)"
- Collaborated with the Design Team, Marketing Team, Media Team, and others to ensure the successful organization of the TEDx event 2024 at IIT Guwahati.
- Highlighted the importance of taking breaks in the process of reaching our goals.

PROJECTS

• Regression Analysis (Statistical Inference)

[Project Report](#) [Github](#)

Project Supervisor: Prof. Ayon Ganguli, Dept of Mathematics, IIT Guwahati

- Conducted regression analysis by performing point and interval estimation of all parameters.
- Performed test of significance of the regression, residual analysis, subset selection, finding adjusted R^2 , residual analysis, and detection of multicollinearity.
- Awarded **Grade(9 out of 10)** for this report.
- **Tools and Technologies:** Pandas, Seaborn, Numpy, Sklearn, Matplotlib, Statsmodels.

• E-commerce Website

[Project Report](#) [Github](#)

Project Supervisor: Prof. Kalpesh Kapoor, Dept. of Mathematics, IIT Guwahati

- Implemented key features, including User Authentication, Menu Enhancements, and Order Summary.
- Gained hands-on experience in full-stack development, version control, and project management.
- Ranked 2nd Highest among MNC batch projects and got total **8/10** in DBMS course.
- **Tools and Technologies:** ReactJS, Redux, Express.js, Node.js, MongoDB.

• Image Generation using GANs

[Microsoft Powerpoint](#) [Github](#)

Project Supervisor: Prof. Prasant Patil, MFS of Data Science and Artificial Intelligence, IIT Guwahati

- Implemented a GAN using TensorFlow to generate handwritten digit images from the MNIST dataset.
- Defined the generator and discriminator model, configured the models with loss functions and optimizers. After training, the Generator can generate new handwritten digit images similar to the MNIST dataset.
- **Tools and Technologies:** Python, Matplotlib, TensorFlow.

TECHNICAL SKILLS

- **Programming Languages:** Python(Numpy, Pandas, Matplotlib, Seaborn, Scikit-Learn, Tensorflow), C, C++
- **Web Technologies:** HTML, CSS, JavaScript, ReactJS, ExpressJS, NodeJS
- **Operating Systems:** Windows, Linux
- **Database Management Systems:** MySQL, MongoDB

KEY COURSES TAKEN AT IIT GUWAHATI

- **Data Science and AI:** NLP with Large Language Models, Deep Learning, Machine Learning, Probability Theory, Statistical Inference, Optimization Techniques
- **Computer Science:** Computer Programming (with Lab), Data Structures and Algorithms (with Lab), Database Management Systems (with Lab), Theory of Computation, Discrete Mathematics
- **Mathematics and Finance:** Mathematical Finance, Algorithmic and High-Frequency Trading, Numerical Linear Algebra, Modern Algebra, Differential Equations, Numerical Analysis

ACHIEVEMENTS

- **SummerHackStack workshop :** conducted by [Students' Web Committee, IIT Guwahati](#): Backend Development with [Node.js](#) Frontend Development with [React.js](#), [HTML/CSS/JS](#) successfully completed all the tasks and projects.
- **Master's Thesis Project (MTP):** Got **AA Grade (10/10)** in my Final Year project at IIT Guwahati on "Portfolio Optimization with Large Language Models (Portfolio Transformer)"
- **Leetcode :** Maintaining consistency with Leetcode DSA problem solving with **250+ days** long streak.
- **Inspire Scholarship (2019):** for securing in the **Top 1%** among all students from West Bengal, India