

Prakhar Gupta

Indian Institute of Technology, Goa

Fourth Year **Undergraduate, Computer Science and Engineering**

Address: 62-A, Kurmitola, Azamgarh
E-mail: prakhar.gupta.21031@iitgoa.ac.in
Mobile: +91 8858968971
LinkedIn: [Prakhar Gupta](#)
Github: [prakhar619](#)

Education

BTech, Computer Science and Engineering , Indian Institute of Technology Goa	CGPA : 7.53/10	2021 – Present
Class 12, CBSE , St.Xavier's High School, Ailwal	Aggregate: 93.2 %	2019 – 2021
Class 10, ICSE , Jyoti Niketan School, Atlas Tank	Aggregate: 95.4 %	2017 – 2019

Experience

Technology Analyst, ProcDNA

(Jan 25 – Present)

- Hands-on experience with **Snowflake**, **Databricks**, Spark, and data warehousing, supporting both backend data exploration and data mart creation.
- Automated QC processes in **PostgreSQL** by aggregating data from source data lakes and target data marts, validating data integrity through covariance checks at regular interval using **triggers**.
- Developed data marts and Power BI dashboards for US-based pharmaceutical clients, supporting sales and marketing teams with data-driven insights

Projects

Novel AutoComplete [Github]

(May 24 – Jun 24)

- Developed and implemented a **LSTM** neural network architecture in Python that effectively captured long-range dependencies in text, resulting in a 30% improvement in the model's performance compared to recurrent network on complex literary datasets.
- Built on TensorFlow with nominal encoding such as one-hot encoding.
- Implemented **Beam Search** for decoding text sequences. Beam search selects the most likely sequences, which improves the quality and coherence of the generated text.
- Trained on Alice in Wonderland and Frankenstein novels, generating text that reflects the distinctive characteristics of these classic works.

WRKFLOW [Github]

(May 24 – Jun 24)

- Built Dashboard Web App which is a powerful tool for individuals looking to enhance their productivity by effectively tracking goals and managing tasks. Its **MERN** stack foundation with MVC architecture ensures a reliable, robust and scalable application.
- Integrated Client-Side Rendering (**CSR**) with React for a responsive user interface ensuring initial load times of under 2 seconds.
- Handled Backend by Express.js and **Mongoose**, integrated with MongoDB which supports rapid query execution with average response times for CRUD operations below 50 milliseconds.

OptiML[Github]

(Jan 24 – Apr 24)

- Developed a **Deep learning library from scratch** and created a neural network with more than 8 layers on it for Boston Housing dataset.
- Coded fundamental machine learning algorithms and statistical methods, including Linear Regression, Perceptron, and Maximum Likelihood Estimation (MLE), Expectation Maximization (EM), K-Means and Gaussian Mixture Models (GMM).
- Addressed 9+ optimization problems like **Max flow**, **LP** using methods such as Newton's iterative method and Exact line search. Additionally, the project includes modelling and solving optimization problems using **Gurobi** APIs.

Skills

Programming Skills:	C, C++, C#, Python, Java, Haskell, Bash, SQL.
Software Skills:	Git, GitHub, VS, VS Code, Databricks, AWS, FastAPI.
Frameworks/Libraries and OS:	Ubuntu, Fedora, Windows, Node, Express, Spring Boot, React, MongoDB, Posix.
Relevant Coursework	Data Structures and Algorithms, Algorithm Design, Computer Networks, Computer Architecture, Compiler Design, Unix Tools, Computer Vision.

Positions of Responsibility

Wing Representative	Hostel Wing Representative in Student Panchayat	(2022 – 2023)
Core-Member	Alpha - Finance Club of IIT Goa	(2023 - 2024)
Event Overseer	Cepheus KBC Event Overseer	(2023 – 2024)

Extracurriculars & Hobbies

- Committed to environmental stewardship, volunteering with Varaha, the Climate Change Society of IIT Goa, to clean various beaches.
- Gaming enthusiast, engaging in fps, strategic, indie and open-world gameplays.
- Competitive table tennis player, participating in tournaments and friendly matches in spare time.
- Dedicated bookworm with a love for literature, exploring diverse genres and authors.