





# Anmol Deep

B.Tech. - Mechanical Engineering  
Minor in Product Design  
Indian Institute of Technology Guwahati

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## Experience

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### • Digital Engineer (Data Science team)

*TATA Digital*

*Aug 2020 - Present : 1 year*

- Delivered analytics pipeline for 2M customers.
  - \* Created One time load as well as Delta load pipelines from scratch.
  - \* Wrote tests for code and used Delta and Parquet formats for storage.
  - \* Also created a Churn and CLTV model for downstream.
- Built a collaborative filtering recommendation system
  - \* Performed literature review on recommender systems, especially cold start.
  - \* Used an open source package LightFM to make production grade model.
  - \* Implemented matrix factorization algorithm from scratch in Python.
- Similar product recommendation using product images
  - \* Performed literature survey of instance segmentation models, especially Mask-RCNN.
  - \* Fixed bugs in an open source Mask-RCNN library, trained it and used it in the project.
  - \* Built a web app to demo different models.
- Worked on vehicle purchase information chatbot
  - \* Fixed bugs in the code, which was made using RASA framework.
  - \* Extended the features of the chatbot by adding new models.
  - \* Gained good understanding of NLP methods like Named-Entity recognition.

### • Backend web development internship

Live 

*Mechanical Department, IITG*

*May 2019 - July 2019*

- Worked upon backend development of website for Mechanical department from scratch.
- Utilized OOP paradigms extensively to model data storage and access.
- Deployed the system on both cloud and currently on local apache server.
- Took regular feedback on features and iteratively improved them with feedback.

## Technical Skills

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- **Data crunching:** PySpark, Pandas, SQL
- **Machine Learning:** TensorFlow, Scikit-learn, Spark MLlib, LightFM, MLFlow, Optuna
- **PyData libraries:** Matplotlib, Plotly, Seaborn, Numpy, Scipy
- **Data engineering:** Databricks, Delta lake, Parquet, Dremio, Azure data factory, PostgreSQL, PyMongo
- **Web Technologies:** Wagtail, Django, Bootstrap
- **Programming Languages:** Python, Scala, C++, C
- **Miscellaneous:** Excel, Git, Bash, BeautifulSoup4

## Key courses taken

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|----------------------------------|--------------------------------|-----------------------|
| • Probability & Statistics       | • Microsoft Azure fundamentals | • Deep Learning       |
| • Data structure lab with OOP    | • Jira and Agile fundamentals  | • Recommender Systems |
| • Linear Algebra & Real Analysis | • Gamification                 | • Tensorflow          |

## Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
Minor	IIT, Guwahati	9	2017 - 2019
B.Tech Major	IIT, Guwahati	6.73	2016 - 2020
Senior Secondary	CBSE Board	93.2%	2016
Secondary	CBSE Board	10.0	2014

## Projects

- **Failure of laminated composite materials: probabilistic analysis & machine learning**

*Bachelor's Thesis Project, Prof. Nelson Muthu*

- Modelling finite element analysis of lamina and meshing algorithms using NumPy.
- Performing research on state of the art method for predicting failure in composites.
- Engineering relevant features, training ML and DL models and comparison of results.

## Achievements

- **INPhO - Indian National Physics Olympiad 2016:** Was selected among the top 400 students all over India for the International Physics Olympiad's 2nd Stage conducted by TIFR.
- **NSEC - Indian National Chemistry Olympiad 2016:** Qualified for the state merit list.
- **Winner, Green Campus challenge:** Proposed an Idea to keep the campus clean.

## Positions of Responsibility

- **UG Senator, Students' Gymkhana Council** May 2018 - May 2019
  - Recommended changes in UX and backend of Complaint booking portal.
  - Worked on Mess management, Gymkhana finance management, and general issues of student welfare.
  - One of seven chosen representatives of undergrad students in the senate.
  - Convenor of maintenance committee, worked with a team of eight people.
- **Event Manager, Technical Board, SGC** Mar 2017 - May 2018
  - Conducted four events with cumulative participation of 650+ and footfall of 1000+.
  - Managed a cumulative budget of 5 lac, and publicity of Technical board events in the campus.
  - Acquired skills in Spreadsheets, Collaboration and Team Management.
  - Planned strategy for the management of Technical board with the General Secretary.
- **Alumni Head, MESA** Dec 2016 - May 2019
  - Built up a 600 member strong alumni network in 3 months.
  - Actively engaged with 50+ alumni, convinced multiple alums to deliver talk.
  - Organized first ever webinar session by US Alumni, convinced him for funding Robotics club.
  - As core team member in 2016-18: Organized Workshops, Intern talks, Freshers' Farewell parties.

## Soft Skills

- **People:** Team management, Project management, Collaboration
- **Design:** New product development, Business Model Generation, Marketing management, Brainstorming, Focus group, Ethnographic study

## Extra curriculars

- **Social service:**
  - Organized Blood donation camp during Alcheringa, with 100+ individual donations.
  - Organized relief camp in Mayong(Assam) worst hit by floods of 2018, distributed necessities.
  - Surveyed rural areas neighboring IITG campus with Techniche social initiative - Pragati.
  - Active member of social service club for two years, joined NSS and participated in its initiatives.
- **Tutor, Topper.com:** Helped students clear their doubts in Maths and Physics
- **Volunteer, Inter IIT Sports Meet 2018:** Coordinated 300+ participants' fooding, lodging and inventory management in the hostel.