Anmol Deep

B.Tech. - Mechanical Engineering
Minor in Product Design
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Experience

- **Digital Engineer (Data Science team)**
  TATA Digital — *Aug 2020 - Present : 1.5 years*
  - Top performer.
  - 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

- **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

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

Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. 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.