

# Sounak Mukherjee

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## EXPERIENCE

### Pratilipi [↗](#)

Data Scientist

May 2022 - present

Bangalore

- Performed multiple experiment on *Collaborative Filtering* model and *Content Based* models to improve total reads by **50%** and also **2x** the subscription purchases.
- Written data ingestion scripts for AWS Personalise. And deployed new campaigns, which helped to achieve daily reads of **150k**.
- Modified two algorithms for recommender systems and improved total reads by **20%**.
- Built a Bi-LSTM model from scratch to predict the gender of a person from their name and achieve a F1-score of **93%**.
- Built and maintain the Machine learning infrastructure using **MetaFlow** and **AWS Batch**. Migrated workflows to **MetaFlow** leading to cost saving of **\$800** per month.
- Improved observability in services using **Grafana**.
- Wrote **terraform** module to automate **AWS ECS** service deployment.
- Built a system to collect data, and create embed dings for semantic search using **Sentence Transformers** and **TF-IDF**. Also created an API using **FastAPI** to serve it to the end user.

### Bobble.ai [↗](#)

AI Intern

February 2022 - May 2022

Remote

- Wrote pipelines to process terabytes of conversational data.
- Performed *intent recognition* on *hindi macronics* corpus.
- Developed a model to find the sentiment of brands in the conversational texts.
- Trained *FastText* on large datasets to create sentence embedding and word embedding.
- Performed clustering on large conversational data.

## PROJECTS

### Targeted-sentiment-analysis [↗](#)

December 2021

Implemented Transformation Net for targeted sentiment analysis

- Built a custom model to get the polarity of the target in the sentence. Engineered a powerful backend API with FastAPI, containerized the solution using Docker, and seamlessly deployed it on a Kubernetes cluster for optimal performance and scalability.

### Machine-Translation [↗](#)

November 2021

Trained a Transformer from scratch and used for machine translation

- Encoder-Decoder architecture to produce an input sequence representation with applied positional embedding to increase token position awareness in sentence. Decoder connects it all together and generates required translation. It translates English sentences to German have plans to expand its support for Indian language. Created the front-end in streamlit and deployed the application in EC2 instance.

## TECHNICAL SKILLS

- **Languages:** Python, C/C++, Dart, HTML/CSS
- **Libraries:** Scikit-Learn, Matplotlib, Pandas, Numpy, Seaborn, Spacy
- **Framework:** TensorFlow, Keras, PyTorch, Flutter
- **Others:** Linux, Git, AWS, Streamlit, Docker, Kubernetes, FastAPI, Terraform, MetaFlow, MLFlow, Weight&Biases, Grafana

## COURSEWORK

- **Academics:** NLP, Machine Learning, DMDW, Data Structures, Operating Systems, Database Management Systems, Web Technology
- **Others:** Coursera Deep Learning Specialization by Andrew Ng., GANs Specialization by DeepLearning.ai

## EDUCATION

### Kalinga Institute of Industrial Technology

B.Tech Computer Science and Engineering, **CGPA: 9.15**

Bhubaneswar

2019–2023