# Neloy Barman *Chatbot Developer*

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## 🎓 EDUCATION

**Ahsanullah University of Science & Technology** ↗                                          2019 – 2023
*Bachelor of Science in Computer Science and Engineering*
  CGPA: **3.542**

## 💼 INDUSTRY EXPERIENCE

**Chatbot Developer**                                                                    Jul 2024 – present
*Gravitas AI* ↗                                                                 124 City Road, London, UK
  - Develop conversational flows and train chatbots from concept to deployments.
  - Conduct data pre-processing and generate datasets to enhance database quality.
  - Propose solutions to meet the unique requirements of diverse projects.
  - Design and implement vector databases, utilizing **OpenAI** and **LLM**s to improve performance.
  - Assist team members with technical support, including troubleshooting and debugging code issues.

**Trainee Machine Learning Engineer**                                                     Oct 2023 – Jan 2024
*Mastercourse Bangladesh* ↗
  - Create datasets using web scraping overcoming anti-scraping measures.
  - Clean, visualize, and analyze data using data science tools to derive insights.
  - Optimize **LLM**s & **Deep Learning** models, including performance evaluation and tuning.
  - Deploy models to **HuggingFace** and integrate with websites for real-time applications.

**Associate Flutter Developer**                                                           Jul 2023 – Oct 2023
*Karnaphuli Jewellery Trading LLC.* ↗
  - Implement pixel-perfect user interface designs.
  - Integrate RESTful APIs and manage application states.
  - Collaborate with the existing codebase and debug errors to maintain seamless functionalities.

## 📁 PROJECTS

**A RAG-based Intelligent Email Automation System** ↗
*openai, postgresql+pg, python, lambda, sns, ses, rds*
  In this project of Gravitas AI, I designed and deployed a **PostgreSQL** vector db in **AWS RDS**, leveraging
  **OpenAI embeddings** for question indexing. Then extracting data from the **SES** inbound email object
  and utilizing **LLM** for query interpretation, I conducted vector similarity searches, and delivered user-
  friendly responses.

**Artwork Caption Generator** ↗
*python, selenium, pyrtorch, transformers, streamlit, huggingface*
  By scraping 47115 data and performing data cleaning, I **fine-tuned** and evaluated a **generative** model.
  Designing a user interface using **Streamlit,** I deployed the caption generator into **HuggingFace**.

### An Intrepretable Bengali Fish Recognizer ⟋

*python, fastai, grad-cam, huggingface*

Collecting images using **FastAI**'s search, training some **DL** models, I created a multi-class classifier and implemented an **XAI** approach, **Grad-CAM** for the prediction **interpretability**. Then I deployed and integrated the best model to website.

### Instagram Automation Chatbot

*aws lex, lambda, boto3, meta developer platform, instagram login api*

In this Gravitas AI project, I integrated the chatbot with **Meta Developer Platform**. I Implemented **Instagram Login API** and trained an **AWS Lex** bot. creating a **Lambda** to handle chat initiation, I designed dynamic responses using media, buttons, generic templates, and icebreakers to enhance user interaction.

### An XAI based OSCC Detection System ⟋

*python, tensorflow, keras, sklearn, grad-cam, lime*

Training **CNN** models with different approaches (**cost-sensitive**, **contrastive learning** and fine-tuning) we achieved **97.84% accuracy** with **DenseNet-121**, then **XAI** methods such as **LIME**, **Grad-CAM** and some more were implemented on the final outcome for the **interpretability**.

### Scientific Paper Keywords Categorization ⟋

*python, selenium, fastai, blurr, onnx, huggingface, flask*

Scraping 40457 data and performing data cleaning, I trained some **BERT** variants and chosen a multi-label categorizer with **52.29% F1-score**. Lastly I deployed and integrated the compressed model, building a website.

### Daraz 11.11 Top Selling Product Data Analysis ⟋

*python, selenium, pandas, matplotlib, tableau*

Scraping 12907 product data using **Selenium**, I implemented data cleaning and visualization. I executed data analysis by creating some interactive dashboards in **Tableau** and observation findings.

### An OSCC Detector App ⟋

*flutter & dart, tensorfow lite*

I integrated the best performing classifier model from the **OSCC** detection work, building an app from scratch.

## 🧠 SKILLS

**Languages** — Python, C, Flutter & Dart, JS | **Frameworks** — *PyTorch, HuggingFace, TensorFlow, Streamlit, Django* | **Data Science Tools** — *Pandas, Numpy, Matplotlib, Sklearn* | **AWS Services** — Lex, Lambda, IAM, SES, SNS, RDS, S3, DynamoDB | **Database** — *PostgreSQL* | **Others** — *OpenAI API, Meta Developer Platform, VS Code, PyCharm, Google Colab, GitHub.*

## 🌐 LANGUAGES

**English** — *Professional Proficiency* | **Bangla** — *Native*