MD. ABU BAKAR SIDDIQ SAYEM

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SKILLS

- **Programming Language –** Python, C
- **Data Analysis –** Pandas, Excel
- **Data Visualization –** Matplotlib, PowerBI
- **Machine Learning –** Tensorflow, Keras, Colab, Pytorch, Opencv (cv2), Numpy
- **Natural Language Processing –** NLTK, RegEx, Keras, Huggingface, Spacy, Gensim, Openai
- **Deep Learning –** CNN, LSTM, Encoder-Decoder, Transformer
- **Office Suite –** Microsoft Office (Word, Excel, PowerPoint, Visio), Google (docs, sheet, slides)
- **Source Control –** Github
- **Operation System –** Windows, Linux

JOB EXPERIENCES

- **Alchemy Software Limited | Python, NLTK, RegEx, Keras, Huggingface, Openai**
  Software Engineer(R&D) | (November 2020 – Present)
  - **Chat as a Service** – A specific purpose extractive chatbot that takes text file (like- pdf, txt etc.), preprocess the text and gives the response of the user queries. It can understand the context of query.
  - **Data Analysis** – Collect raw data, Cleaning, Exploratory Data Analysis (EDA), Extract Useful Information.
  - **Web Scrapping** – Collecting and parsing raw data from web
  - **Extract Information** – Extract required and useful information from CV. (Worked on BdJobs CV).
  - **Finetune LLM** – Finetune Huggingface LLM model for Sentiment Classification, Information Extraction, Language Translation, Topic Modeling.
  - **Neural Machine Translation:** Build Encoder-Decoder architecture for Neural Machine Translation.
  - **Create Pipeline** – Analyze and create pipeline for specific task, like- Data Cleaning, Question-Answering, Sentiment Analysis, Text Generation, Machine Translation.
- **Teaching Assistant (TA) | Dept. of CSE | IIUC | (June 2019 – October 2019)**
  - Lead discussion sections, tutorials, or laboratory sections.
  - Return assignments to students in accordance with established deadlines and inform students of the procedures for submitting class work, like lab reports.
  - Prepare or proctor examinations.
  - Notify instructors of errors or problems with assignments.
  - Assist students with solving coding problems.
  - Assist course teacher in developing teaching materials, and checking students' projects and discussing their project ideas.
  - Give feedback to the course teacher about students' problems.
  - Evaluate lab performance.

PROJECTS

- **Asl_ChatBot –** A chatbot service that can create response by extracting info. from text file (pdf/txt), translate English to Bangla and vice-versa, paraphrasing, summarization, check plagiarism, extract personal-identifiable info. like- name, email, phone, address.
- **Sentiment Analysis using BERT –** Analyze and Rate sentiment of sentences in any text using the BERT model 'bert-base-multilingual-uncased-sentiment'.
  Link: nlp/sentiment_analysis_using_bert/sentiment_analysis.ipynb at main · abs-sayem/nlp (github.com)

- ➢ **Total NLP –** Includes data cleaning, exploratory data analysis, sentiment analysis, topic modeling and text generation.
  Link: nlp/total_nlp-alice_xhao at main · abs-sayem/nlp (github.com)
- ➢ **Character Wise Text Generation –** A generative model for text (character by character) using LSTM recurrent neural network with Keras in Python.
  Link: nlp/character_wise_text_generation at main · abs-sayem/nlp (github.com)
- ➢ **Question Answering from Text –** A simple Chatbot that import a text file and answer any questions related to the text in the file.
  Link: nlp/question_answering_from_text at main · abs-sayem/nlp (github.com)
- ➢ **Summarization using Transformer:** Build a summarization pipeline, summarize any text using transformer model.
  Link: deep_learning/summarization/summarization_using_transformer.ipynb at main · abs-sayem/deep_learning (github.com)
- ➢ **Machine Learning Projects –** Some ML projects related to – regression analysis, classification, prediction, detection, recommendation, time-series analysis.
  Link: machine_learning/ml_projects at main · abs-sayem/machine_learning (github.com)
- ➢ **A Project** on – "Voice Activated Home Automation System." Presented in Techfest-2018, IIUC.
  Link: https://drive.google.com/open?id=1GI1jQ8GgIk0aSAktaL1omfeWCP90hYwd

COURSES

- ➢ **Machine Learning and Data Analysis** by – NACTAR (nectar.gov.bd)
- ➢ **Neural Networks and Deep Learning** by – Coursera (deeplearning.ai – Andrew Ng)
- ➢ **Convolutional Neural Network** by - Coursera (deeplearning.ai – Andrew Ng)
- ➢ **Introduction to TensorFlow for Artificial Intelligence, Machine Learning and Deep learning** by - Coursera (deeplearning.ai – Andrew Ng)
- ➢ **Introduction to Deep Learning** by - Coursera (deeplearning.ai – Andrew Ng)
- ➢ **Natural Language Processing with Alice Xhao** by – PyOhio
- ➢ **Object Oriented Programming with Python –** freeCodeCamp.org
- ➢ **Machine Learning for Everybody -** freeCodeCamp.org

RESEARCH EXPERIENCE

- ➢ **A Journal** namely- **"HActivityNet: A Deep Convolutional Neural Network for Human Activity Recognition."** Published in December 2021 EMITTER International Journal of Engineering Technology 9(2):357-376.
  Link:https://www.researchgate.net/publication/357871345_HActivityNet_A_Deep_Convolutional_Neural_Network_for_Human_Activity_Recognition
- ➢ **A Publication** namely - "**Monitoring Harmful Sound Density and Light Intensity State in an Industrial Workplace**." Published in 2019 International Conference on Signal Processing and Communication (ICSC).
  Link: https://ieeexplore.ieee.org/document/8938314?arnumber=8938314

EDUCATION

- ➢ **M.Sc. in Engg. | (Pursuing) |** Computer Science and Engineering | International Islamic University Chittagong
- ➢ **B.Sc. in Engg. | 3.51 | 2019 |** Computer Science and Engineering | International Islamic University Chittagong

REFERENCES

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