Jyotirmay Nag Setu

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○ Jyotinag   🌐 https://jyotinag.github.io/   in Jyotinag

Research Interest

Artificial Intelligence, Computer Vision, Machine Learning, Data Science

Education

Jan 2015 – Jan 2019 **University of Dhaka**
BSc in Computer Science & Engineering (CGPA 3.03/4.00)
Final Semester GPA 3.57/4.00
Artificial Intelligence - GPA 3.50/4.00, Artificial Intelligence Lab - GPA 3.25/4.00
Machine Learning and Data Mining - GPA 3.50/4.00, Machine Learning and Data Mining Lab - GPA 3.25/4.00
Natural Language Processing - 3.75/4.00, Natural Language Processing Lab - 3.25/4.00
Undergraduate Thesis (5 Credits) - 4.00/4.00

Work Experience

May 2020 – Nov 2020 **Robi Axiata Ltd.**
Data Engineer, EDW & Analytics Team
- Designing ETL Process.
- Maintaining the data processing pipeline.
- Writing **Python** and **Shell** scripts to process raw data.
- Writing PL/SQL procedures to process data in **Oracle Database**.
- Using **Hadoop** to store and process big data.
- Generating **SAP BO** reports from the processed data.

Nov 2020 – Ongoing **Bangladesh Bank**
Data Engineer, R&D on Data Science Applications Wing
- Designing ETL Process.
- Writing **Python** scripts to automate the data processing pipeline.
- Writing PL/SQL procedures to process data.
- Creating **Oracle Data Integrator(ODI)** mappings to process data.
- Creating **Oracle Warehouse Builder(OWB)** mappings.
- Developing a fully automated data pipelines with Python.
- Using **Oracle BI** to generate reports.

Technical Skills

- **Deep/Machine Learning Libraries:** Keras, Tensorflow, Scikit Learn, Opencv
- **Programming Languages:** Python, Java, C/C++
- **Database:** MySQL, PL/SQL, Oracle
- **Web Programming:** Python(Django), Python(Flask), PHP
- **Operating Systems:** Linux, Windows, OS X

Publications

2019 | M. M. Islam, A. Debnath, T. Al Sayeed, **J. N. Setu**, M. M. Rahman, M. S. Sakib, M. M. Khan, S. Shatabda, A. Islam, "A Gray Box Interpretable Debugging Approach for Deep Sequence Learning Model,"ICLR Workshop: Debugging Machine Learning Models (Poster), 2019. *arXiv*

Undergraduate Thesis

2018 | M. S. Sakib, **J. N. Setu**, M. M. Islam "Multi-level Balanced Caching Approach to Optimize Repeated Subgraph Queries"

Volunteer Works

- Proctor, ICPC Dhaka Regional 2021

Programming & Online Judge

- HackerRank (Python Gold Badge) (Link)
- HackerRank (Problem Solving 4 star Badge) (Link)
- LinkedIn Python Badge
- Leetcode (Link)

Research Projects

- **d-DeVIS**
  A Gray Box Interpretable Debugging Approach for Deep Sequence Learning Model
  Paper Link: `https://arxiv.org/abs/1811.08374`
  Demo Video Link: `https://tinyurl.com/7msn2p7m`
  Project GitHub Link: `https://github.com/Jyotinag/d-DeVIS`

- **Sparse Matrix VS. Dense Matrix: Designing an Efficient Data Structure**
  In numerical analysis and scientific computing, gaining efficiency regarding memory utilization and arithmetic operations is a big challenge. In a real life scenario most of the data we work with tends to mainly comprise of zero elements.
  GitHub Link: `https://github.com/Jyotinag/sparse_matrix`
  Write-Up Link: `https://tinyurl.com/44du9h24`

- **Human Activity Recognition**
  BIT-Interaction Data-set from ACTION Lab, RIT. Used **Moving Average and Single Frame CNN** to build a video classifier with a disappointing accuracy.
  Data-set Link: `https://tinyurl.com/ynbmabzt`
  GitHub Link: `https://tinyurl.com/4cxwj6zz`
  Kaggle Notebook Link: `https://tinyurl.com/xvr9vdzs`

Software Projects

- **BDRentals**
  We addressed the most common problem for most of the 1st year students and newcomer in Dhaka city, finding accommodation. Our project was to make a website using the Software Design Pattern to build a platform for those who are looking for a place and also renting their own home.
  Platform: Website

Language: Django
GitHub Link: `https://tinyurl.com/ypxbkufe`

- **Bangla Type Racer**
  We developed a website similar to Typeracer.com, But we implemented it for Bengali. The original website let a user practice his/her touch typing skills by providing the user with a short paragraph and recording his/her typing speed. We saved several Bengali paragraphs for the users to practice Bengali touch typing.
  Platform: Website
  Language: PHP, JavaScript, JQuery, HTML, CSS
  GitHub Link: `https://github.com/Jyotinag/BanglaTyperacer`