

Khandaker Abrar Nadib

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RESEARCH INTERESTS

My research interest is at the intersection of Social Computing, Human-Computer Interaction (HCI), and Privacy and Security. Specifically, I am interested in conducting research focusing on understanding and improving user experiences in digital environments.

PUBLICATIONS

Interaction Based Credibility Analysis of News on Facebook Using Machine Learning Methodologies

- Published in [16th International Conference on Signal Image Technology & Internet based Systems \(IEEE SITIS-2022\)](#).
- Method:** Predictive Modeling Study; **Analysis:** Exploratory Data Analysis, Machine Learning.

RESEARCH EXPERIENCE

News Credibility Analysis on Facebook using User Interactions

2021 - 2022

Supervisors: [Dr. Sadia Sharmin](#) (BUET)

- The goal was to propose a more efficient solution to determine news authenticity than existing methods.
- We developed a method of detecting fake news using interaction metrics on Facebook.
- Employed Machine Learning methodologies to classify public Facebook posts based on authenticity.
- The proposed method outperforms existing content-based and NLP-based solutions and is also language-independent.
- Tech:** scikit-learn, pandas, matplotlib.

EDUCATION

Bangladesh University of Engineering and Technology (BUET)

Dhaka

Bachelor of Science in Computer Science and Engineering

Feb 2017 – May, 2022

- CGPA: 3.50/4.00** (Last two semesters: **3.82**)
- Major CGPA: 3.68/4.00**

STANDARDIZED TEST SCORES

TOEFL

Speaking: 29, Reading: 29, Listening: 28, Writing: 28

114

GRE

Quant: 162, Verbal: 153, AWA: 4.5

319.5

WORK EXPERIENCE

Software Engineer

May 2022 – Present

[Optimizely](#), Dhaka

Digital Asset Management (DAM)

November 2022 – Present

- Currently working in the Digital Asset Management (similar to Google Drive) team.
- Implemented Brand Template feature, which lets users create a Template for their brand and define Placeholders that other collaborators can edit. I also implemented Download, Export, Cloning, and Task integration features for Brand Templates.

- DAM Collections are a group of user-defined Assets, including Asset folders. I implemented Searching, Filtering, and Navigation within DAM Collection folders.
- Implemented various asset-specific features like meta information, asset relations, and bulk operations, which enhanced user ability to handle assets.
- Implemented breadcrumbs in the DAM Library to make the navigation more fluid for the users.
- Implemented various user activity tracking for analytics to gain useful insights.
- Made improvements to several backend and UI components in terms of accessibility, performance, and code quality.
- Upgraded and integrated GPT-3.5-turbo model for AI content generation.
- Handled user roles and privileges for various features.
- **Technologies:** Python, Flask, JavaScript, TypeScript, React.js, MySQL, MongoDB, Alembic, Celery, Elasticsearch

Asset Renditions (AR)

May 2022 – October 2022

- Worked on implementing and maintaining a feature Asset Rendition. This feature allows users to pre-define “Rendition types”, using which whenever users upload a new asset, new “Renditions” of that asset are automatically generated in the background. Example use-case: a user may define two image rendition types- 1. Facebook- 1080*720 crop and Instagram- 720*720 crop. Then whenever the user uploads an image asset, two cropped images will automatically be generated with the given specifications.
- Implemented logging schemes by combining multiple services to enable users and developers to diagnose and debug errors.
- Built three services to generate asset renditions using the given specifications including image and video generators.
- Implemented stateless generators to scale horizontally and integrated asynchronous messaging for decoupling and scaling, for efficiency.
- Integrated the Rendition Service with the local development environment for developers.
- **Technologies:** Python, FastAPI, MySQL, PostgreSQL, Docker, Kubernetes, Message Queue

PROJECTS

- | | |
|---|------|
| Online Art Gallery <i>Library: React.js, Node.js, Express.js, Mongoose, Database MongoDB</i> | 2021 |
| <ul style="list-style-type: none"> • Designed an e-commerce platform for an Art Gallery. • Virtual exhibitions simulated using virtual rooms. | |
| AES (Advanced Encryption Standard) <i>Language: Python, Libraries: numpy</i> | 2021 |
| <ul style="list-style-type: none"> • Encryption and Decryption algorithm for 128-bit key size implemented using Python and numpy. | |
| Rendering scenes using Ray Tracing <i>Language: C, Libraries: OpenGL</i> | 2022 |
| <ul style="list-style-type: none"> • An interactive environment designed in C using OpenGL. • Lighting for the environment implemented using the Phong Reflection Model | |
| Compiler for a Subset of C Language <i>Language: C Libraries: Flex, Bison, 8086</i> | 2020 |
| <ul style="list-style-type: none"> • Compiler with parser written in C. • Compiles to 8086 machine code. | |
| Live Cricket Scoreboard <i>Libraries: JavaFX, Scenebuilder</i> | 2020 |
| <ul style="list-style-type: none"> • A headless app that displays live scores in tabular format. | |

- Basic files used for storage.

Backend of an E-commerce Platform | Language: PHP, Database: PostgreSQL

2021

- Designed the backend of a buy-sell platform.
- Showcased complex database queries.

AWARDS AND HONORS

Optimizely SPOT Award

October 2023

Nominated by teammates and manager.

- Awarded in recognition of excellent performance and contribution.

Optimizely SPOT Award

July 2023

Nominated by teammates and manager.

- Awarded in recognition of resolving challenging problems and performance.

Board Merit Scholarship- HSC

2016

Education board scholarship

- Ranked 6th(male) in Dhaka board.

Board Merit Scholarship- SSC

2014

Education board scholarship

TECHNICAL SKILLS

Research Methods: Data Scraping, Surveying, Interviewing

Languages: JavaScript, Python, Java, C/C++, SQL, PL/SQL

Database: MySQL, Oracle, MongoDB, PostgreSQL

Frameworks: Flask, React.js, Node.JS, Typescript, FastAPI, BootStrap

Tools/Software: Git, TensorFlow, Docker, PyCharm, IntelliJ, CodeBlocks, Visual Studio Code, Oracle SQL Developer, Jupyter Notebook, Wireshark

Libraries: Pandas, NumPy, Keras, Matplotlib, OpenCV, OpenGL

Scripting/Markup/Serialization: Bash, TCL, dLTeX, YAML, HTML, JSON;

VOLUNTEERING AND LEADERSHIP EXPERIENCES

Vice President

December 2021- May 2022

BUET Computer Club

- In charge of organizing and running university events under the club's banner.

Vice President

February 2021- April 2022

BUET Dance Club

- In charge of organizing events and workshops on campus.

REFERENCES

[Dr. Sadia Sharmin](#), Associate Professor

Department of CSE, BUET

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[Md. Shariful Islam Bhuyan](#), Assistant Professor

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