

# Khandaker Abrar Nadib

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## RESEARCH INTERESTS

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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

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

- Published in [16th International Conference on Signal Image Technology & Internet based Systems \(SITIS2022\)](#).
- Method:** Machine Learning; **Analysis:** Exploratory Data Analysis.

## RESEARCH EXPERIENCE

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### 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

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### 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

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### TOEFL

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

**114**

### GRE

*Quant: 162, Verbal: 153, AWA: 4.5*

**319.5**

## WORK EXPERIENCE

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### 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

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

- 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

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### 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

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**Research Method:** Data Scraping, Survey, Mixed-method, Experiment, Prototyping

**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

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### 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

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

[Department of CSE, BUET](#)

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