# Samrat Alam
*Curriculum Vitae*

## Contact:
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- **Portfolio:** samrat-alam.com
- **LeetCode:** leetcode/samratalam

## Professional Experience:

- **Software Developer at Red.Digital Limited, a subsidiary of Robi Axiata Limited. (Sept 2022-Present)**

## Education:

- **BSc in Computer Science and Engineering**,
  Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh.
  CGPA- 3.43 out of 4.00

## Academic Project(s)/Thesis:

- **E-Commerce Website Design using React and Redux.**
  - A simple e-commerce website using fake api data from online. Visit the website and see the products and then add them to cart. The cart product items are stored in MongoDB.
  - Tools: React, Redux, Redux Thunk, Nodejs, Expressjs, MongoDB, Bootstrap.
- **Portfolio Design using MERN.**
  - It is the personal portfolio website which is a simple MERN application. Data comes from MongoDB and render in the component. Using this application, anyone can give feedback which will send to my mail as well as a reply mail will send to the sender.
  - Tools: React, Nodejs, Expressjs, MongoDB, Nodemailer.
- **Aspect Based Sentiment Analysis of Hotel Reviews.**
  - It is a natural language processing project. It categorizes data by aspect and identifies the sentiment as well as hidden information attributed to each aspect. Using this aspect-wise sentiment summarize the particular hotel into different categories like food quality, cost, facilities, location etc.
  - Tool: Python, NLTK, SpaCy, TextBlob, Seaborn.
- **Bengali Text Categorization using deep neural networks.**
  - In this project, around 96k Bengali text data collected from Kaggle are categorized into 12 different categories like sports, art, crime, accident, economics etc with 84.92%.accuracy using different deep learning models: CNN, LSTM, Hybrid Model (RNN-CNN).
  - Tools: Python, NLTK, TextBlob, Vader, Seaborn, Kaggle, Deep Learning Models.
- **3D Classroom and Sohid Minar Design using OpenGL in C++.**
  - It is an OpenGL lab project in C++. Where 3D classroom and Sohid Minar are designed using this.
  - Tools: CodeBlocks, OpenGL, C++, Texture Images.
- **Lexical Semantic-based Sentiment Analysis for COVID-19 Vaccine.**
  - In this project, Twitter's data regarding the vaccine for COVID-19 was collected from Kaggle and then label based on textual sentiment using the lexical semantic methods: TextBlob and VADER. Finally, visualize the public's concerns regarding the vaccination against COVID-19 throughout 2020 in the graph.
  - Tools: Python, NLTK, TextBlob, Vader, Seaborn, Kaggle.
- **Online Newspaper Portal User Authentication.**
  - This project focused on designing authentication of users who have different roles like admin, editor of the online newspaper portal.
  - Tools: Expressjs, MongoDB, Ejs, Express-validator, Bcrypt, JWT.
- **Soft-error detection and correction in Ternary Content Addressable Memory.**

- o This is my Undergraduate Thesis Work which focused on developing and designing an efficient system to tolerate soft errors in TCAM by generating rules from the input dataword. The major advantage of this approach is that it can correct 100% of errors with relatively low redundant bits.
- o Tools: C++, Orcad, Memristor, Logisim.

## Computer Skills:

- **Languages:** C++, C, Python, Java, JavaScript, SQL, Nodejs, HTML, CSS, Verilog, PHP.
- **Framework, Libraries and Tools:** Spring Boot**,** React, Redux, Express.js, Bootstrap, Git.
- **Database:** SQL, MongoDB
- **Operating System:** Windows, Linux

## Problem Solving:

- **LeetCode:** 185+ problems (Profile Link: Samrat Alam)

## Publication:

- S. Alam, A. A. Zobayer and M. S. Sadi, "Towards Tolerating Soft Errors in TCAM," *2021 2nd International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)*, 2021, pp. 722-726. [ResearchGate Link]
- S. Alam, N. Joy, S. Shovon, "Machine learning and Lexical Semantic-based Sentiment Analysis for Determining the Impacts of the COVID-19 Vaccine," *2021 IEEE International Conference on Signal Processing, Information,Communication and Systems (SPICSCON),* 2021. [ResearchGate Link]
- S. Alam, M. A. U. Haque, A. Rahman, "Bengali Text Categorization Based on DeepHybrid CNN–LSTM Network with Word Embedding," *2022 International     Conference on Innovations in Science, Engineering and Technology (ICISET)*, 2022, pp. 577-582, doi: 10.1109/ICISET54810.2022.9775913. [ResearchGate Link]

## Leadership:

- General Secretary (GS), Hardware Acceleration Club of KUET (HACK). [2020-2021]
- General Secretary (GS), CSE Association of KUET. [2019-2020]

## Scholarship:

- Vocational Scholarship from Khulna University of Engineering & Technology.

## Reference:

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