

# MAISHA MUMTAJ

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 [Maisha Mumtaj](#) |  [Maishaaaa](#) |  [Maisha Mumtaj](#) |

Dhaka, Bangladesh

## EDUCATION

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**Bachelor of Science in Statistics and Data Science**  
Jahangirnagar University, Savar, Dhaka, Bangladesh

February 2018 - December 2022

CGPA: 3.25/4.0

**Relevant Coursework:** Probability, Computer programming, Numerical analysis, Linear algebra, Calculus, Demography, Quality control, Statistical inference, Data Processing with Statistical software, Multivariate Analysis, Econometrics, Time series analysis, Stochastic Processes, Statistical Simulation, Machine Learning, Data mining, Categorical Data Analysis, Bioinformatics.

**Activities:** Volunteered and held a leadership position in three university clubs. Attended different cultural and social activities and Programming Competitions arranged by the department.

**Project Title:** Sentiment analysis with text mining: a study from the newspaper contents of Bangladesh.

## RESEARCH EXPERIENCE

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**Research Assistant**  
**Centre for Development Evaluation**

May 2023 - Present

- Collaborated with a team to develop machine learning models for predictive analytics in healthcare.
- Conducted statistical simulations to improve accuracy in predictive models using STATA.
- Published research findings in *International Journal of Science and Development-IJSDev*.

1.<https://ijsdev.com/association-between-coronary-heart-disease-and-tobacco-consumption-in-bangladesh/>

2.<https://ijsdev.com/association-between-prevalence-of-morbidity-from-cataract-and-diabetes-and-other-determinants-results-from-primary-screening-in-bangladesh/>

**Research Assistant**  
**Department of Statistics and Data Science, Jahangirnagar University**

Jan 2023 - present

- Working under the supervision of Professor Md Habibur Rahman.
- Conducted advanced data preprocessing and exploratory analysis.
- Developed and optimized machine learning models for web scrapping, sentiment analysis, and text preprocessing.
- Collaborated on a research project titled "Sentiment Analysis with Text Mining: A Study with the Newspaper Contents in Bangladesh" that was submitted in Journal of Networking and Communications System.
- Used tools like Python, Scikit-learn, and TensorFlow for model development and evaluation.
- Presented findings in team meetings and contributed to writing research manuscripts.

## PROJECTS

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**Mental Health of Working Women: Analysing the US Labor Force data**

September 2024 - Present

- Developed a machine learning model using R to find the relation between the work stress and the mental health issue in the women community in US.
- Working with the peer and contribute on writing the research paper.

**Face detection with MTCNN using densenet for enhanced security**

September 2023 - October 2024

- Combined MTCNN and DenseNet for enhanced face detection.
- Utilizes an ensemble technique for improved feature extraction.
- Addresses limitations of traditional face detection methods.

- Focuses on performance across diverse datasets and conditions.
- Emphasizes the need for optimization in real-world applications.

**Project Title: Sentiment analysis with text mining: a Study from the Newspaper Contents of Bangladesh Jan 2023 - May 2024**

- Developed a machine learning model using Python to get the web scraping data for the newspapers.
- NLP methods such as tokenization, lowercasing, and lemmatization were applied to preprocess the text data for accurate sentiment analysis.
- Implemented various machine learning algorithms such as Random Forest, Naive Bayes, and k-means classifier algorithms and achieved 95% accuracy. The Python packages used in this study include: BeautifulSoup - for web scraping and parsing HTML content, Scrapy - for web scraping and data extraction, TextBlob - for sentiment analysis and computing sentiment scores, SpaCy - for natural language processing tasks, scikit-learn - for implementing machine learning algorithms and clustering techniques, NLTK (Natural Language Toolkit) - for various text preprocessing tasks.

## WORKING EXPERIENCE

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**Contributor, Anannya Magazine**

**December 2022 - Present**

- Scientific and statistical content writing for a renowned fortnightly magazine.
- Making a significant impact on women's health and hygiene within the community.

**Field Enumerator**

**August 2019 - February 2020**

**SANEM-South Asian Networking for Economic Modeling**

- Collaborated with the team to get data on the income and expenditure of Garment workers in Bangladesh.
- Estimated the weekly expenses of the respondents.

## SKILLS

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**Programming Languages:** Python (Academic and certification)

R (Academic and certification)

STATA

Minitab

SPSS

Latex

C programming

**Packages: Python:** numpy, Matplotlib, MTCNN, opencv, labelbinarizer, BeautifulSoup, Scrapy, Tensorflow, TextBlob, SpaCy, Scikit-learn, NLTK.

**R:** ggplot, ggplot2, dplyr

**Data Analysis:** Machine Learning, Statistical Modeling, Data Visualization, Simulation.

**Language:**

-Bangla (Native)

-English (Fluent) IELTS Score 6.5 : Listening 7, Reading 6, Writing 6.5, Speaking 6.5

-French(B1)

## LEADERSHIP & VOLUNTEERING

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**Vice President, Jahangirnagar University Higher Study Club**

**Sep 2022 - May 2023**

- Organized more than 30 workshops, seminars, and symposiums on higher study for 1500+ general students of Jahangirnagar University.
- Worked with various institutions, including the US embassy, and worked as a team leader.
- Took seminars and sessions about research methodology, Programming in research, and English proficiency among the club members.

**Convener, Higher study 360 arranged by Jahangirnagar University Higher Study Club (JUHSC) August 2023**

- Organized a flagship program of Jahangirnagar University Higher Study Club for around 200 students, which included scholarships and tips for students from all over the country.

**Youth Social Leadership funded by USAID, developed by NORC at the University of Chicago and New York University, in collaboration with Rupantar and Jahangirnagar University** **March 2020**

- Completed a rigorous 14-week program on social leadership and community impact for leadership training.
- Participated in targeted tolerance seminars that tackled topics like hate speech, extremism, and rumors.
- Acquired vital abilities in community involvement, conflict resolution, and leadership.
- Worked on social justice initiatives with peers and international experts, encouraging discussion and action on urgent social issues.

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#### **PUBLICATIONS AND CONFERENCE**

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1. Association between coronary heart disease and tobacco consumption in Bangladesh (Mumtaj, M., Dhar, A.K., Sathi, S. T., Hasan, M. M., Khan, T., Hasan, M. M. (2024). Association between Coronary heart disease and tobacco consumption in Bangladesh. International Journal of Science and Development, 1(1), 40–50.)
2. Association between prevalence of morbidity from cataract and diabetes and other determinants: results from primary screening in Bangladesh (Sathi, S. T., Mumtaj, M., Dhar, A. K., Hasan, M. M., Khan, T., Hasan, M. M. (2024). Association between prevalence of morbidity from cataract and diabetes and other determinants: results from primary screening in Bangladesh. International Journal of Science and Development, 1(1), 29–39.)
3. Presented my research paper on the Association between coronary heart disease and tobacco consumption in Bangladesh (Mumtaj, M., Dhar, A.K., Sathi, S. T., Hasan, M. M., Khan, T., Hasan, M. M. (2024). Association between Coronary heart disease and tobacco consumption in Bangladesh. International Journal of Science and Development, 1(1), 40–50.) at CDE annual conference 2024

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#### **AWARDS**

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- Emerging programmer award at " SDS Programming fest 2022"
- University merit scholarship for excellence in second year result.
- University merit scholarship for excellence in first year result.