

# Nahian Tasnim

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Computer science master's student with a strong foundation in machine learning, statistical modeling, and data analysis. Proven ability to translate complex data into actionable business insights, as demonstrated by optimizing A/B tests with uplift modeling and deploying an AI-driven AWS cost optimization solution. Experienced in Python, R, SQL, and cloud platforms (AWS). Eager to apply analytical and technical skills to solve real-world challenges.

## EDUCATION:

### Saint Louis University

Master of Science in Computer Science  
C.G.P.A.- 3.92 | Expected Graduation: December 2026

St. Louis, MO, USA  
January 2025-present

### Brac University

Bachelor of Science in Computer Science and Engineering  
C.G.P.A - 3.83 out of 4 (2 times in Dean's List, 4 times in VC's List)

Dhaka, Bangladesh  
August 2024

## TECHNICAL SKILLS:

- **Programming:** Python (Pandas, NumPy, Scikit-learn, PyTorch), R, SQL, Java (Basic)
- **Data & ML:** Statistical Modeling, A/B Testing, Uplift Modeling, Reinforcement Learning (SAC), Bayesian Analysis, Time-Series Forecasting, Deep Learning (UNet, ResUNet)
- **Databases:** PostgreSQL, MySQL
- **Cloud & Tools:** AWS (EC2), Docker, Git, GitHub, Looker Studio, Streamlit, MS Word, MS Excel, MS ppt, ClickUp, Tableau

## PROJECTS:

### 1. Cloud-Saver: AWS Resource Optimizer with Soft Actor-Critic (SAC)

- Designed and deployed an AI-driven SAC solution to dynamically optimize AWS EC2 instances, achieving 25% higher cost savings than AWS Compute Optimizer while maintaining zero penalties.
- Built a production-ready system with a Flask API and Dockerized deployment, integrating real and hybrid datasets.

### 2. A/B Test Analyzer with Uplift Modeling

- Built an advanced A/B testing framework in Python with T-, S-, and X-Learners to model individual treatment effects, uncovering a key subgroup with 37% uplift despite an overall negative ATE.
- Projected \$9.17M annual net savings by recommending a targeted rollout strategy instead of a full launch, directly linking data insights to business impact.

### 3. Bayesian Clinical Trial Analysis

- Developed a full-stack clinical trial analysis pipeline in R with preprocessing, frequentist and Bayesian modeling, and FDA-style reporting, ensuring end-to-end statistical rigor.
- Applied advanced Bayesian methods (hierarchical modeling, prior sensitivity analysis, and adaptive trial designs) to deliver probabilistic insights and improve trial efficiency compared to traditional approaches.

## RESEARCH:

ForCM: Forest Cover Mapping from Multispectral Sentinel-2 Image by Integrating Deep Learning with Object-Based Image Analysis ([AusDM'24](#)).

- Engineered a novel hybrid approach, "ForCM," combining Deep Learning (UNet, ResUNet, AttentionUNet) with Object-Based Image Analysis (OBIA) to enhance forest cover mapping accuracy on multispectral satellite imagery.
- Achieved a significant performance improvement, with the integrated model reaching a 95.64% overall accuracy on multispectral Sentinel-2 imagery, outperforming traditional OBIA methods by over 2.7%.

## RELATED EXPERIENCE:

### Excelerate | Virtual Data Analyst Intern

February-March, 2025

- Analyzed cost, reach, results, and audience response of digital campaigns with a cross-cultural team to identify underperforming ads to recommend discontinuation, provided strategic improvement suggestions and presented actionable insights to stakeholders to enhance campaign performance and optimize ad spend.

### Excelerate | Virtual Data Analyst Associate Intern

April-May, 2025

- Led a multicultural team in cleaning and analyzing large official datasets from Excelerate, creating master and mapping tables in PostgreSQL.
- Designed wireframes in Canva and developed a live Looker Studio dashboard to deliver insights, supported by a final report and presentation.

## WORK & LEADERSHIP EXPERIENCE:

### Department of Computer Science and Engineering, BRAC University ST (Undergraduate Teaching Assistant)

February 2023 - April 2024

- Assisted in grading, conducting lab sessions, and providing weekly consultation hours to support students in fundamental computer science courses.

### Robotics Club of BRAC University | Member of Editorial and Publications

November 2021 - May 2024

- Created promotional scripts, slides, and posters for club events to enhance engagement and visibility.