






NOSHIN FOUZIA TASNIM

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RESEARCH INTEREST

Machine Learning, Image Processing, Biomedical Image Analysis, Neuromorphic Computing, Human Computer Interaction

WORK EXPERIENCE

Undergraduate Teaching Assistant/ Student Tutor Jun 2024 - May 2025
CSE Department, BRAC University

- Assigned to Algorithms course and helped during lab classes for assigned section
- Checked lab quiz scripts, assignments and mentored students offering 12 hours consultation each week

Executive Jan 2021 - Dec 2024
BASIS Students Forum BRACU Chapter

- Coordinated between BASIS and BUCC to organize different events and seminars
- Contributed in meetings and planning for NASA Space Apps Challenge 2024

Intern and Project Management Coordinator Sep 2021 - Aug 2022
Awareness 360

- Best intern award for project management team and eventually appointed as staff member of same team
- Presentations, meetings and creating trainer manual for project management
- Project management training, mentoring new interns and conducting own project following SDGs
- Arranging Youth Development Program and mentoring fellows

EDUCATION

Bachelor of Science in Computer Science and Engineering Oct 2021 - Oct 2025
BRAC University, Dhaka **Credits Completed: 136**
CGPA: 3.93/4.00

- Notable Courses: Data Structure & Algorithms, Artificial Intelligence, Data Science, Computer Networks, Computer Architecture, Microprocessors, Software Engineering, Database Systems

Higher Secondary School Certificate (Science) July 2018 - Jan 2021
Viqarunnisa Noon School and College, Dhaka **GPA: 5.00/5.00**

Secondary School Certificate (Science) Jan 2008 - Apr 2018
Viqarunnisa Noon School and College, Dhaka **GPA: 5.00/5.00**

EXTRACURRICULARS

Assistant Director Oct 2023 - Dec 2024
Event Management Department, BRAC University Computer Club (BUCC)

- Successfully organized multiple large scale events and led volunteer teams collaborating with different departments
- Managed permissions and received guests and event sponsors
- Experienced in food allotment and arranging venue, created a guideline book on venue booking rules in accordance with university policies
- Planned and supervised activities of BUCC Study Corner

Organizer, Intrahacktive 1.0 Oct 2024 - Nov 2024
Event Management Department, BRAC University Computer Club (BUCC)

- Helped with planning and execution of the entire event and organized hackathon, database wizard, debugger
- Led the logistics team and worked with volunteers, guest reception

Member, IEEE Computer Society Apr 2022 - Dec 2022
IEEE BRAC University Student Branch

- Participated in different workshops on AI/ML and Cybersecurity

RESEARCH EXPERIENCE

Classification of Alzheimer's and Dementia subtypes using R-STDP Driven Spiking Neural Networks

AI/ML, Neuroimaging, Undergraduate Thesis

Co-developed an SNN autoencoder model for classification of MRI images of demented and non-demented patients under the supervision of my thesis supervisor, Dr. Md. Golam Rabiul Alam and co supervisor, Zayed Humayun. We built a primary dataset by collecting brain MRI images from the National Institute of Neurosciences for 8 months with IRB approval. My contributions to this thesis included data collection, building the model and hyperparameter tuning for the best results. The model incorporates Forward-Forward Learning and R-STDP for training without backpropagation and ensemble classifier for testing. The model achieved a 77.92% accuracy and 79.47% precision on demented vs non-demented classification. The model was optimized using a CNN branch for feature extraction which achieved a 86.98% accuracy.

TECHNICAL SKILLS

- **Languages:** Python, C/C++, Javascript, PHP, SQL, HTML, CSS, RISC-V, x86 assembly language
 - **Frameworks & Libraries :** Laravel, React.js, Next.js, PyTorch, , Matplotlib, TensorFlow, Pandas, Scikit-learn
 - **Development Tools:** LaTeX, Git, Github, Postman, Jira, Flex, Bison
 - **Database:** mySQL, PostgreSQL
 - **Hardware design and Networking Tools:** LTSpice, Quartus, Verilog HDL, Cisco Packet Tracer, Wireshark
 - **Microcontrollers:** STM32, Arduino, RaspberryPi
 - **Office Tools:** MS Office, MS Excel, MS Powerpoint
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ACADEMIC PROJECTS

Club Management System

A dynamic website created for club management with deployment

- There were 3 panels, admin, user and club leaders with different dashboards
- Next.js framework used, PostgreSQL used for database and Vercel for deployment

Travelcom

A website created for finding travel partner and planning trips

- Laravel framework used for backend, HTML, CSS, React used for Frontend
- Admin notification feature, user chatting and group trip features implemented

Smart Water Cleaner Robot

A robot built using Arduino for collecting trash from water and monitoring water quality

- Arduino Uno R3 used as microcontroller, C used for arduino code and L293D motor driver shield used for driving motors
- The robot can navigate using HC-SR04, collect trash and monitor water quality using temperature and turbidity sensor and display it on an I2C LCD

Credit Card Fraud Detection

A machine learning project made for detection of fraud credit cards

- The dataset was oversampled and undersampled to reduce class imbalance and preprocessed
 - Machine learning models KNN, Logistic Regression, Decision Tree & random forest were trained and tested
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HONORS AND AWARDS

• Vice Chancellor's List

For obtaining a GPA of 3.9+ for 9 semesters

• Dean's List

For obtaining a GPA of 3.7+

• Scholarship based on previous results

Received 50% waiver on tuition fees at BRAC University for maintaining a 3.8+ CGPA

• Bronze Award at Duke of Edinburgh International Awards

It was a 6-month long program combining skill development, physical activity, voluntary service and adventurous journey

REFERENCE

Dr. Farida Chowdhury

Professor, Department of CSE

BRAC University

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Rafeed Rahman

Senior Lecturer, Department of CSE

BRAC University

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