Shajedul Arefin

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Summary

- Backend Developer with hands-on experience in Django, Laravel, Vanilla JS.
- Final year Graduate Student from BRAC University with a track record of building diverse projects— from full-stack E-commerce site and Bike-rental system to Classroom Noise detection and Traffic congestion detection.
- Passionate about crafting interactive experiences, solving complex problems, and learning emerging technologies.

Education

Brac University **Fall 22 – Present**
Bachelor of Science in Computer Science *Dhaka, Bangladesh*

Dhaka Commerce College **Dhaka, Bangladesh**
Higher Secondary Certificate - HSC (GPA: 5.00) *2021*

Brother Andre High School **Noakhali, Bangladesh**
Secondary School Certificate - sSC (GPA: 4.22) *2019*

Relevant Coursework

- Data Structures
- Programming For the Internet
- Algorithms
- Artificial Intelligence
- Database Management
- Operating System
- Optimization
- Computer Graphics

Technical Skills

Languages: Python, Javascript, C, C++, PHP HTML/CSS, Java, SQL
Technologies/Frameworks: Django, OpenGL, Laravel, Scikit learn, Keras etc
Developer Tools: Git, Linux, Azure, MySQL, MariaDB, Arduino

Experience

Microsoft Student Ambassador **2023 – Present**
Beta Ambassador *Remote*

- Served as a community builder, facilitating collaboration and knowledge sharing among team members by organizing and hosting technical sessions and events.
- Hosted educational sessions on topics such as Computer Vision with Azure AI, Prompt Engineering with Azure AI, Machine Learning with Azure, and Git and GitHub Fundamentals, empowering community members to develop practical skills.
- Guided participants in hands-on workshops, helping them apply Azure AI services and best practices in real-world scenarios.
- Actively promoted engagement in the Microsoft Learn community by sharing resources, answering questions, and encouraging peer-to-peer learning.

Co-Instructor, RSML (Residential Semester Machine Learning Course) **Fall 2025**
BRAC University Residential Semester Training Program *Dhaka, Bangladesh*

- Delivered lectures and facilitated classroom sessions on core machine learning concepts, practical techniques, and real-world applications.
- Participated in the creation and design of course assessments, ensuring alignment with learning objectives and effective evaluation of student progress.
- Provided individual and group consultation to students, offering guidance on course material and addressing technical challenges in machine learning.
- Supervised student projects, supporting them through ideation, implementation, and presentation phases, and fostering hands-on learning.

BRAC University Computer Club (BUCC) **2022 – Present**
General Member → Executive → Senior Executive *Dhaka, Bangladesh*

- Promoted through multiple leadership positions for active contribution and dedication to club initiatives.
- Organized and managed coding contests and technical events, ensuring broad participation and smooth execution.
- Worked collaboratively on projects led by senior members, gaining hands-on experience and contributing to successful outcomes.
- Currently guide and mentor juniors on their club projects, providing technical advice, feedback, and support throughout their development process.
- Mentored junior members, offering guidance in programming, problem solving, and professional development.
- Collaborated with club leadership to plan, coordinate, and promote events, fostering a vibrant and inclusive club culture.

Robotics Club of BRAC University (ROBU) **2022 – 2024**

Apprentice *Dhaka, Bangladesh*

- Worked on Arduino-based robotics projects and developed basic automation prototypes, applying foundational engineering principles.
- Gained hands-on experience in hardware integration, sensor interfacing, and embedded systems programming.
- Collaborated with club members to design, build, and test robotic mechanisms, enhancing practical problem-solving skills.

Projects

Dokan-A digital Marketplace | *PHP-Laravel, JS, HTML, CSS* **July 2025**

- Developed an E-commerce site with PHP-Laravel.
- Implemented functionality for adding and buying imported goods.
- Used MySQL to maintain customer information and implement features like cart system and product search.
- Performed inner joins to connect reviews with both customer info and products.
- Implemented Ajax for dynamic cart updates without page reload.
- Applied object-oriented practices to create different categories and assign parent-child relationships.

Easy Bike Rental | *Python-Django, HTML, CSS* **Mar 2024**

- Created a bike rental system based on real-life usage scenarios.
- Processed IoT/ML-based station input to calculate fares and billing accurately.

Inventory Management GUI | *Python-Django, HTML, CSS* **2025**

- Designed an inventory management system to track goods being added or released.
- Implemented OOP practices such as inheritance to create multiple account types and manage databases.

Personal Mechanic Based Garage Management | *PHP, JS, HTML, CSS* **2025**

- Developed a car workshop management system with assigned mechanics and scheduled time slots.
- Implemented conditional queries to assign slots and render available mechanics.

JavaScript Mini Projects | *HTML, CSS, JavaScript* **2025**

- Developed a dynamic **Fortune Generator** displaying randomized fortunes per interaction.
- Built an efficient **To-Do List Application** with add, delete, and task-completion functionalities.
- Created a **3-Second Interval Stopwatch** that updates every three seconds using custom timing logic.

Amazon-Clone | *HTML, CSS* **2023**

- First front-end project to implement HTML and CSS skills and design a GUI with proper user experience mapping.
- Customized the site according to personal preference.

Employee Attrition Analysis | *Python, Scikit-learn, Pandas, Matplotlib, TensorFlow* **2025**

- Developed a machine learning system to analyze employee attrition using supervised and unsupervised techniques.
- Implemented Logistic Regression, KNN, Neural Networks, and K-Means Clustering to predict and understand attrition behavior.
- Performed data preprocessing, feature engineering, and exploratory data visualization to identify key factors affecting turnover.

Traffic Congestion Prediction | *Python, TensorFlow, Keras* **2025**

- Developed deep learning models to classify traffic congestion levels from road images.
- Implemented and compared CNN architectures including **ResNet50**, **MobileNetV2**, and **EfficientNetB0** for optimal accuracy.
- Performed data preprocessing, augmentation, and visualization to improve model performance and generalization.

Shell for Ubuntu | *C, Linux,Pipes, Semaphores, Mutex* **2025**

- Developed a C program simulating concurrent student consultations using pthreads.
- Implemented synchronization mechanisms including semaphores and mutexes to manage access to shared resources.
- Designed a waiting room system to handle multiple students and a single tutor efficiently, ensuring proper concurrency handling.

File Checker | *C,Linux IPC, Shared Memory* **2025**

- Developed a C program to verify and monitor file paths efficiently.
- Implemented interprocess communication (IPC) mechanisms using shared memory and pipes to coordinate multiple processes.
- Ensured reliable monitoring and synchronization between processes for real-time file verification.

OpenGL Animation | *Python, PyOpenGL, GLUT* **2025**

- Developed an interactive PyOpenGL program to simulate natural scenarios with color combinations, rain, and sunlight effects.
- Implemented mouse and keyboard controls to manipulate animation elements dynamically.
- Applied OpenGL rendering techniques to create smooth visual effects and interactive animations.

Flappy Bird Game | *Python, PyOpenGL, GLUT* **2025**

- Developed a 3D Flappy Bird game using PyOpenGL with interactive controls.
- Implemented game logic for continuous scenario generation, including dynamic obstacle creation and seamless environment scrolling.
- Handled collision detection, scoring system, and player physics for realistic gameplay.
- Applied OpenGL rendering techniques to create smooth visual effects and immersive 3D animations.

Shooting Game | *Python, PyOpenGL, GLUT* **2025**

- Developed an interactive shooting game where enemies spawn randomly and the player earns points by shooting them.
- Implemented a cheat mode granting the player special abilities, enhancing gameplay and testing mechanics.
- Handled game logic including enemy behavior, scoring system, and real-time user interaction.
- Applied OpenGL rendering techniques to create smooth animations and immersive visual effects.

Object-Avoiding Bot | *Arduino, Embedded Systems, Sonar Sensor, embedded C* **2024**

- Developed as a group project under the **Basics of Robotics (BOR)** course.
- Built an autonomous object-avoiding robotic car using Arduino and ultrasonic sensors.
- Implemented real-time obstacle detection and avoidance logic using sensor feedback loops.
- Programmed motor control using PWM signals to manage forward motion, turning, and braking mechanisms.
- Integrated embedded system concepts including interrupts, sensor calibration, and optimized loop execution.

Trainings & Certifications

- Database Management with SQL I and II
- Basics of Robotics (BOR) – Robotics Club of BRAC University (ROBU)
- German Language Certificate – Training and Resource Centre (TARC), BRAC University

Soft Skills

- Team collaboration and management, problem-solving, time management, cross-field communication

Extracurricular Activities & Hobbies

- AI & System design enthusiast
- Outdoor games: football, cricket
- Volunteer work: BIT Battles, BRACU Career Fair, Huawei - Seeds For The Future - 2025 Program
- Reading novels
- Watching anime
- Studying critical theories

Languages

- Bangla (Native) ,English (Proficient) ,German (Beginner)