Nazia Shehnaz Joynab

nsjoynab | ncoder76@gmail.com | geek-a-byte | +8801928943835 | Portfolio

Education

- **Military Institute of Science and Technology** — Dhaka, Bangladesh
  Bachelor of Science in Computer Science and Engineering; CGPA: 3.65/4.00 — *Feb. 2019 – May 2023*

Experience

- **Samsung R&D Institute Bangladesh** — Dhaka, Bangladesh

  ***Software Engineer I (DevOps)**, Full-time, Onsite* — *Dec 2023 - Oct 2025*

  - Contributed to the development and maintenance of an internal content delivery network named ADS (Artifact Deployment System) which leverages advanced caching methods, proxies and cloud technologies to optimize transmission of large binary artifacts across 23 global R&D centers of Samsung Electronics.
  - Engineered an admin portal and CI plugin using Django and J2EE, cutting cloud storage cost by ensuring consistent artifact retention across on-premise and cloud infrastructures (AWS S3).
  - Automated a complex multi-step artifact migration process between storage servers using Bash and Fabric, achieving a **1.75x** speed improvement compared to standard transfer methods.
  - Engaged in comprehensive system monitoring, administrative actions while shouldering critical communication with overseas stakeholders.
  - Actively participated in peer programming, code review, and discussions related to emergency issue mitigation and efficient system design.
  - Mentored junior engineers to collaborate in project work and related SRE tasks.
  - Co-led the retraining of an open-source speech recognition model for an internal Gen-AI PoC competition.

  ***Full Stack Development Intern**, Full-time, Onsite* — *Jun 2023 - Dec 2023*

  - Designed and implemented a secure and efficient patent and ideation file management tool using CodeIgniter and MySQL, which is actively used by all SRBD employees.
  - Contributed to the development, maintenance and documentation of three other monolithic applications using Laravel for work process automation such as automated leave balance calculation, employee information retrieval, organization's goals vs achievements visualization etc.
  - Volunteer Activity: Provided technical training in basic C programming to children and teenagers.

Projects

- **Federated learning aided Cervical Cancer classification (Undergrad Thesis)**
  - Proposed a CNN-based federated learning architecture for cervical cancer classification which showed test accuracy of **94.36%** and **78.4%** on an IID (Independent and Identically Distributed) and a non-IID setting respectively.
- **Finetuning Whisper for automatic speech recognition and transcription**
  - Fine-tuned a pre-trained Whisper model on Common Voice and Multilingual LibriSpeech datasets for speech transcription tasks. Word Error Rate (WER) of **20%** was achieved. The final model was converted into GGML format for offline inference via android device.
- **Joyita: An ML based screening application for facilitating the Cervical Cancer treatment**
  - Created re-usable widgets in **Flutter**. Used **Cloud Firestore** to store doctor appointment details, patients' blogs etc. The ML model predicted the possibility of having cervical cancer based on user inputs of a pre-defined questionnaire. Hosted ML model using **Flask and Heroku**.
  - Testing of the application was done by almost **50+** users.

- **AlertTrace: A wearable SOS alert system**
  - **Hardware Development**: Used Arduino Nano, GSM module, and GPS module to make a wearable device. If a user pressed the SOS button from the wearable device, his latitude-longitude with the device id was stored in **Firebase Realtime Database** and sent to connected android device.
  - **Android Application Development**: Developed a **Flutter** application featuring OTP authentication, emergency contact setup, SOS alert generation, and real-time victim tracking on Google Maps. Utilized Cloud Firestore for secure user data management.
  - We achieved 2nd Runners-up position in DevMania 2022 for this idea.
- **Shopner Pathshala: A web based E-learning platform for special children**
  - Successfully developed a web application using **Laravel 8 and Oracle 11g**, featuring advanced database operations using **PL/SQL** techniques such as stored procedures, triggers, sequences, and robust exception handling. Developed features such as appointment management, on-line Q&A forum, course registration, and student result management with role-based authentication.
  - We achieved a position in the top 100 (out of 1000 teams) in a national idea competition with this idea.
- **Bengali Sign Language Recognition Using Deep Learning**
  - Compared five pre-trained models for recognizing 38 classes using pre-trained models of Pytorch - Densenet121, VGG16, Mobilenet v3 small, Mobilenet v2, and Resnet50; achieved an overall test accuracy of **96.57%, 95.13%, 92.82%, 95.52%, 96.31%** respectively for each model.

Publications

- **Journals**
  - Joynab, N. S., Islam, M. N., Aliya, R. R., Hasan, A. R., Khan, N. I., & Sarker, I. H. (2024). A federated learning aided system for classifying cervical cancer using pap-smear images. *Informatics in Medicine Unlocked*. (link, pdf, data and materials)

Programming Skills

- **Languages**: Bash, Python, C++, Java, SQL, JavaScript
- **Backend**: Django, Laravel, CodeIgnitor, Flask, Apache
- **Database**: MySQL, Oracle, Firebase
- **Android**: Dart, Flutter
- **Machine Learning**: PyTorch, TensorFlow
- **DevOps**: Linux, Docker, Kubernetes (Basic), AWS S3 (Basic), Quickbuild, GitHub, Splunk

Achievements

- **Tech Innovator**, MX SE Award for ADS cloud mode development, Samsung Electronics (2025)
- **2nd Runners-up**, Devmania by BDOSN (2022)
- **15th position**, preliminary coding contest of Code Samurai Hackathon (2022)
- **Top 100 out of 1000 teams**, Mujib 100 Idea Contest (2021)
- **34th position**, Inter University Girls' Programming Contest Season 2, NSU (2019)

Extra-Curricular Activities

- **MIST Innovation Club**
  Supervisor and Team Leader of Application Dev (2022)
  - Conducted a workshop on the basics of Python **Object Oriented Programming**.
  - Prepared video tutorials of **Django**

Problem Solving Profile

Solved 600 problems across all platforms.
Leetcode (nazia32), **Hackerrank (geek_a_byte32)**, **Vjudge (dheeranazia)**, **CSES (geek_a_byte32)**