Nazia Tabassum Toma

Software Developer

(203) 628-1978
ntabassum.toma@gmail.com
linkedin.com/in/naziatabassumtoma
www.nazia.info
https://github.com/NaziaToma
Oakville, Connecticut 06779

EDUCATION

Master of Engineering, Computer Science - ***(4.0/4.0)***
University of Cincinnati, Cincinnati, Ohio, USA ***Exp. April 2025***
Coursework: Advanced Algorithms, Cloud Computing, Advanced Software Engineering, Software Architecture, Distributed Operating System, Software Test & Quality Assurance

Bachelor of Science, Computer Science & Engineering - ***(3.7/4.0)***
North South University, Dhaka, Bangladesh ***June 2017 - December 2021***
Coursework: Data Structure and Algorithms, Software Engineering, Machine Learning, Pattern Recognition and Neural Networks, Discrete Mathematics, Computer Organization & Design

PROFESSIONAL EXPERIENCE

Taco Tango Food Truck Ordering App, Oshawa, Canada (Remote)
Software Developer ***April 2024 - Present***

- Developed a custom standalone desktop app for a food truck owner to take customer orders, built using ***Python, Tkinter*** for the backend and frontend, and ***SQLite*** for local data management without needing an internet connection.
- Implemented a ***responsive design*** that allows taking new orders, displaying pending ones, and marking orders as done—all within a single window, with completed orders moved to an excel report, ***reducing order processing time by 40%*** and improving workflow efficiency.
- Implemented order customization with over 10 menu options, allowing users to add and modify menu items as needed.
- Delivered the initial app ***within one week***, which ***increased*** the ***customer satisfaction by 30%***.

North South University, Dhaka, Bangladesh
Teaching Assistant ***October 2021 - May 2022***

- Assisted 500+ students each semester by grading assignments, quizzes and conducting one-on-one tutorial sessions.
- Created PowerPoint presentations to support learning materials and delivered sessions to large student groups.
- Utilized advanced Excel functions for grading and and analyzing class performance.

Barikoi Technologies Ltd, Dhaka, Bangladesh
Software Engineer Intern ***July 2021 - September 2021***

- Barikoi Technologies is a startup in Bangladesh, specializing in map and location-based services, providing versatile geocoding APIs that enhance navigation, logistics, and service delivery by converting area information into accurate road addresses and vice versa.
- Tackled the challenge of ***parsing unstructured and inconsistent Bangladeshi address data***, where users input addresses in various formats, making it difficult for standard tech solutions to identify roads, house numbers, and other components in an address.
- Developed and trained ***NLP models*** using ***spaCy*** for the ***flagship product – "Rupantor"*** to accurately identify and extract geographic locations from messy, unstructured addresses.
- Expanded the limited dataset by using **data augmentation** to improve model generalization and reduce overfitting.
- Cleaned and prepared datasets using ***Python's pandas library***, ***improving model accuracy by 15%***, and structured the data in JSON format for smooth integration.
- Created ***comprehensive documentation*** to support the development and usage of trained models, ensuring clarity for future developers and researchers.

PERSONAL PROJECTS

Custom Poll Creation and Voting Platform

- Developed a web-based Voting platform using ***Python (Django), Bootstrap***, and ***MySQL***, allowing users to create accounts, login, and participate in polls.
- Implemented admin-controlled polls with real-time vote tracking with a progress bar for each poll and conditional access for logged-out users to view but not participate in polls.

Automated Bug Classification and Resolution Prediction System

- Developed an NLP system in ***Python*** to classify bug reports into Concurrency, Performance, and Other types, and predict their resolution status, optimizing software maintenance efficiency and resource allocation.
- Prepared and pre-processed datasets by cleaning, annotating, and augmenting data from Bugzilla, ensuring high-quality input for machine learning models.
- Tested multiple machine learning algorithms, including ***SVM, Multinomial Naive Bayes, Random Forest, and BERT***, achieving up to ***88% accuracy*** in bug classification and ***73% accuracy*** in resolution prediction with Recall and F-1 score.

Coupon Searching Platform

- Developed a dynamic Coupon/Deals searching platform using ***Python (Django), HTML***, ***CSS***, ***Bootstrap***, and ***MySQL***, enabling users to search for discounts from various Bangladeshi E-commerce or Food Delivery websites like Pathao, Daraz, and Shohoz.
- Implemented features such as category-based search, direct shop website redirection, and a notification system for users about new available coupons.
- Created an admin dashboard for managing coupons, allowing super admins to add, edit, and remove coupon codes, enhancing platform control and user engagement.

Writer's Hub

- Co-developed a blogging platform with user-friendly interface and responsive layout for writers to create, share, and monetize their written work, using ***HTML***, ***CSS***, ***JavaScript***, ***Bootstrap***, ***PHP***, and ***MySQL***.
- Implemented user signup and login, profile management, category-based content search, and payment gateway integration for premium content.

RESEARCH EXPERIENCE

North South University, Dhaka, Bangladesh

Undergraduate Researcher ***May 2021 - October 2021***

Cross-Content Recommendation between Movie and Book Using Machine Learning

- Co-authored and published a paper that introduces a recommendation system using NLP and machine learning to recommend movies to book lovers (and vice versa) based on genre similarities like action, science fiction etc.
- Collaborated in creating and annotating a combined dataset of movie and book descriptions, and applied TF-IDF vectorization to analyse content similarities.
- Implemented and tested ***machine learning algorithms***, including ***K-means clustering***, ***hierarchical clustering***, and ***cosine similarity***, using subjective judgment to evaluate results due to the absence of ground truth labels.
- Highlighted potential applications for this system in platforms like Netflix and Amazon Kindle Store, aimed at enhancing user engagement through cross-content recommendations.

SKILLS

- **Programming:** Python, Java, PHP, C, JavaScript
- **Web Technologies:** HTML5, CSS, Bootstrap
- **Libraries:** Pandas, NumPy, spaCy, Django, TensorFlow, PyTorch, Tkinter
- **Database:** MySQL, SQLite
- **Cloud Technologies:** AWS (EC2, S3, RDS, Route 53)
- **ML Algorithms:** Decision Trees, SVM, K-Nearest Neighbors, Logistic Regression
- **Advanced Skills:** API Design, Unit Testing (TDD), Design Patterns, Software Licensing, Technical Debt Analysis

AWARDS AND RECOGNITION

Magna Cum Laude for Academic Excellence – *North South University* ***2023***

Recognition of Service to ACM as Chair of NSU ACM-W Student Chapter - *ACM HQ, USA* ***2020***

Best Industrial Solution – HackNSU Season 2 Hackathon *(2020)*

- Led a team of three to develop an automated procurement system using ***Python, HTML, CSS, JavaScript, and Dart***, featuring a user-friendly interface in Bengali for non-technical vendors.
- Integrated inventory management, order tracking, payments, and reporting features, which reduced labor costs and processing time; awarded Best Industrial Solution **among 50+ teams** for innovation.

COMMUNITY ENGAGEMENT

- **Chair – NSU ACM-W Student Chapter,** *North South University, Dhaka, Bangladesh* ***2019 - 2020***
- **Convener – BASIS Students' Forum – NSU Chapter,** *North South University, Dhaka, Bangladesh* ***2019 - 2020***