MD MUSHFIQUE RAHMAN

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EDUCATION

University of North Carolina at Pembroke — Expected Dec 2026

Bachelor of Science, Computer Science (Cyber Track) — *Pembroke, NC*

- Achievements: UNCP Chancellor's / Honors List (Spring 2026, Spring 2023, Fall 2023, Spring 2024, Fall 2024); Nominee, UNCP Undergraduate Computer Science Award (2024).
- Leadership: President & former Vice President, UNCP Bangladeshi Students Association (2024-2025); Student Body Senator, SGA UNCP (2023-2024); Reading Lead, AI@UNCP (2023-2024).

TECHNICAL SKILLS

Programming Languages: Python (Advanced), Java, C++, GO, PHP, Prolog

Databases: MySQL/SQL, MongoDB

Web Technologies: HTML, CSS, JavaScript, MATLAB

Frameworks & Libraries: Django, React, PySide6, Express.js

Container & Orchestration: Docker, Podman, Kubernetes, Apptainer

Systems & Security Tools: Kali Linux, Virtual Machines (VirtualBox/VMware)

DevOps & Tools: Git, GitHub, Apache Web Server

Other Skills: Data Analysis, Communication, Leadership, Management

PROJECTS

FraudMind AI – Cybersecurity AI Platform | *Django, OpenAI API, Python, Chart.js, HTML, CSS*

- Designed and developed a full-stack AI-powered phishing and social engineering analyzer
- Implemented structured JSON-based risk assessment including risk level, scam classification, pressure scoring, and manipulation tactic detection
- Built a dark SOC-style cybersecurity dashboard with KPI cards, visual indicators, and secure API integration
- Applied environment variable security practices for API key management and production readiness

VETORA – AI Powered Pet Health Tools | *Django, OpenAI API, TheCatApi, OpenWeather API, Google Places API, Python, HTML, CSS*

- Developed a full-stack AI-driven pet healthcare platform with symptom analysis and urgency classification
- Integrated real-time weather alerts and location-based veterinary discovery using external APIs
- Built secure authentication with user-specific pet profiles and persistent analysis history

Plutus – Financial Tracker (Capstone) | *Python, PySide6, SQLite, HTML, CSS, JS*

- Developed a desktop-based financial system to track income, expenses, and transactions
- Implemented budgeting, category allocation, and real-time spending insights
- Designed goal-setting and 'what-if' analysis features for financial planning

I.T. Asset Tracking System | *PHP, SQL, HTML, CSS, JS*

- Developed a web-based system to manage and track I.T. assets with real-time status updates
- Built a centralized dashboard showing asset lifecycle states and category-based filtering
- Performed manual black-box testing (unit, functional, validation) with 100% test pass rate

School Management System (OOP) | Java

- Built role-based system for students, teachers, and administrators
- Implemented authentication with login attempt limits

RESEARCH EXPERIENCE

Design and Implementation of a RAG-Based Framework for Drone Telemetry Collection and Wireless Attack Analysis

Undergraduate Research Assistant, University of North Carolina at Pembroke

- Developed a Django-based backend pipeline to receive, process, and store UAV telemetry, including GPS coordinates, altitude, timestamps, and flight status labels.
- Conducting experiments to study how wireless disruptions affect telemetry reliability, data integrity, and positional consistency.
- Preparing normal and attack-condition telemetry datasets for anomaly analysis and exploring RAG-based explanations of abnormal flight behavior.

Security Analysis of Containerized Systems: Evaluating Vulnerabilities Under Simulated Cyberattacks

Undergraduate Research Assistant, University of North Carolina at Pembroke

- Designed a controlled testbed to evaluate Docker, Podman, Kubernetes, and Apptainer across Intel/AMD, ARM, and Raspberry Pi 5 systems.
- Measured system behavior under simulated attacks using CPU, memory, response time, uptime, packet loss, recovery time, and system-call data.
- Compared rooted and rootless container platforms to identify safer deployment practices for cloud, edge, and IoT environments. (To be presented at PURC Symposium 2027).

Neighborhood Microscope: Leveraging Big Data Sources to Examine Health and Well-being in Urban and Rural NC Neighborhoods 2024

Undergraduate Research Assistant, University of North Carolina at Pembroke

- Worked with big-data sources (geotagged social media, Google Street View imagery, crime, health, and activity data) to examine urban-rural differences in community well-being.
- Applied text mining, geospatial analysis, and visualization in Python (including the Twitter API) to study neighborhood-level health patterns.
- Presented at PURC Symposium 2024

PROFESSIONAL EXPERIENCE

Student Coach – Center for Student Success

University of North Carolina at Pembroke, Pembroke, NC *Aug 2024 – Present*

- Advise students on academic success strategies and course selection
- Support students in addressing academic challenges and organize student engagement events

Teaching Assistant – Dept. of Math & Computer Science

University of North Carolina at Pembroke, Pembroke, NC *Aug 2024 – May 2025*

- Manage departmental communications and website updates
- Ensure content accuracy, accessibility, and visual quality

Lab Assistant – Cyber Defense Education Center

University of North Carolina at Pembroke, Pembroke, NC *Aug 2024 – Feb 2025*

- Supervise cybersecurity labs and assist students

Web Designer (Front-End)

Creative Shaper, Dhaka, Bangladesh *May 2022 – Dec 2022*

- Built responsive websites using HTML, CSS, and JavaScript

CERTIFICATIONS

Professional Django Developer (AI Quest, 2024)
Front-End Web Development (Creative Shaper, 2022)
IBM Full Stack Software Developer (IBM, Expected Jul 2026