

Md Mushfique Rahman

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SUMMARY

Computer Science undergraduate graduating in December 2026, with experience in Python, Django, and full-stack development. Currently a Backend Developer Intern with a background in software development, algorithms, and technical research.

TECHNICAL SKILLS

- Languages:** Python, JavaScript, C++, Java, Go, PHP, HTML, CSS; MATLAB (basic)
- Frameworks & Libraries:** Django, Django REST Framework, Flask, ExpressJS, React, PySide6, Chart.js, Qiskit, Qiskit Aer
- Databases & APIs:** MySQL, PostgreSQL, MongoDB, SQLite; REST and GraphQL (exposure); OpenAI API
- Containers & DevOps:** Docker, Podman, Kubernetes, Apptainer, Git, GitHub, Azure-based tools; VirtualBox, VMware
- Systems & Security:** Linux, Kali Linux, Apache Web Server, Raspberry Pi 5 (ARM64), ApacheBench, mpstat, vmstat, pidstat

PROFESSIONAL EXPERIENCE

SKYit / GBCS | Backend Developer Intern

Canada (Remote) | Aug 2026 - Present

- Support backend development for web applications using Django REST Framework and ExpressJS, with exposure to REST and GraphQL-based application architectures.
- Work within backend data environments involving MySQL, PostgreSQL, and MongoDB, supporting application logic and data-management tasks.
- Participate in containerized and cloud-oriented development workflows using Docker, Git/GitHub, and Azure-based tools.
- Collaborate with a remote development team through regular stand-ups, code-related discussions, testing, debugging, and assigned development tasks.

Center for Student Success | Student Coach

NC | Aug 2024 - Present

- Advise students on academic strategies and course selection and organize student engagement events.

Cyber Defense Education Center, UNCP | Lab Assistant

NC | Aug 2024 - Aug 2025

- Supervised cybersecurity labs and assisted students with hands-on exercises.

Dept. of Mathematics & Computer Science, UNCP | Teaching Assistant

NC | Aug 2024 - May 2025

- Managed departmental communications and website content, ensuring accuracy and accessibility.

Creative Shaper | Web Designer (Front-End)

Dhaka, Bangladesh | May 2022 - Dec 2022

- Built responsive websites using HTML, CSS, and JavaScript.

PROJECTS

Hybrid Quantum-Classical UAV Route Optimization | Python, Qiskit, Qiskit Aer, ArduPilot SITL, MAVLink

Quantum Hackathon

- Developed a Python-based UAV route optimizer to maximize mission rewards under battery and flight-time constraints.
- Implemented a classical optimization solver and formulated the routing problem as QUBO for QAOA using Qiskit Aer.
- Evaluated QAOA using 1,024-shot simulations at depths $p=1$ and $p=2$, comparing feasibility against classical solutions.
- Configured ArduPilot SITL and tested simulated UAV takeoff, hovering, and position-based movement.

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

- Developed a full-stack Django analyzer for phishing and social-engineering attempts with structured JSON risk assessment.
- Built a SOC-style dashboard with KPI indicators and applied environment-variable practices for secure API-key management.

VETORA - AI-Powered Pet Health Tools | Django, Python, OpenAI, TheCatAPI, OpenWeather, Google Places APIs

- Developed a full-stack Django platform for pet symptom analysis, urgency classification, weather alerts, and vet discovery.
- Implemented secure authentication with user-specific pet profiles and persistent analysis history.

Plutus - Financial Tracker | Python, PySide6, SQLite, HTML, CSS, JavaScript

Capstone

- Developed a desktop app tracking income, expenses, and budgets by category; designed goal-setting and 'what-if' analysis features.

RESEARCH EXPERIENCE

ASQI Lab, Middle Tennessee State University | Undergraduate Researcher

Murfreesboro, TN | Sep 2026 - Present

- Energy-Constrained UAV Routing Using Hybrid Quantum-Classical Optimization:** Developing a routing framework with battery, charging-location, and obstacle constraints, formulated as QUBO for QAOA on a quantum simulator.

University of North Carolina at Pembroke | Undergraduate Research Assistant

Pembroke, NC | Mar 2026 - Present

- Security Analysis of Containerized Systems:** Developing a testbed comparing Docker, Podman, and Apptainer on ARM64 and x86, benchmarking CPU, memory, latency, throughput (ApacheBench, mpstat, vmstat, pidstat); presenting at PURC Symposium 2027.
- LLM and RAG Applications for UAV Communications and Cybersecurity (Sep 2026 - Present):** Built a Django system for live UAV telemetry collection; researched RAG-based integration of drone data and security knowledge into LLM prompts.

University of North Carolina at Pembroke | Undergraduate Research Assistant

Pembroke, NC | 2024

- Neighborhood Microscope:** Applied text mining, geospatial analysis, and visualization in Python (including the Twitter API) to big-data sources on NC neighborhood health; presented at PURC Symposium 2024.

EDUCATION

University of North Carolina at Pembroke | Bachelor of Science, Computer Science (Cyber Track)

Expected Dec 2026

- Achievements:** Chancellor's / Honors List (five semesters); Nominee, UNCP Undergraduate Computer Science Award (2024).
- Leadership:** President & former VP, Bangladeshi Students Association; SGA Student Body Senator; Reading Lead, AI@UNCP.

CERTIFICATIONS

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