

Farzana Chowdhury

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EDUCATION

Mount Holyoke College | Bachelor of Arts: Computer Science & Statistics | GPA: 3.75/4.00 May 2026
Relevant Coursework: Data Structures, Algorithms, Computer Vision, Software Design and Development, Linear Algebra, Intermediate Statistics, Survey Sampling, Infectious Disease Modelling, Discrete Mathematics, Symbolic Logic, Mathematical experiments

TECHNICAL SKILLS

Programming Languages: Java, Python, R, Html, CSS, JavaScript

Software and tools : React, WordPress, Flask, Heroku, Microsoft Excel, Github, 3D printing, ImageJ/Fiji, NetLogo, Shell, Linux

Libraries : Pytorch, TensorFlow,

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant | Robotics, Simulation and Education (RoSE) lab, Mount Holyoke College June 2024 - present

- Successfully installed and configured the Duckietown robotics environment, including setting up physical components and testing DTS demos.
- Explored multi-robot coordination, and currently focusing on path planning with molecules.
- Presented project updates and insights at departmental meetings, demonstrating strong communication and problem-solving skills.

Research Assistant | Department of Mathematics and Statistics, Mount Holyoke College January 2024 - present

- Worked on a triangular agent based- model of fractal growth with its application to absorptive spin-coating polymers, and explored behavioral space of the model in NetLogo, applied image classification techniques and employed 3D modeling methods to simulate real-life outputs.
- Developed image based statistics using ImageJ/Fiji software, applying MiNA preprocessing technique, and network theory to extract network from the images, applied topological scaling and ran simulation to get statistics based output.
- Compared our growth model with real life output of absorbed and desorbed polymers, and presented a poster on it.

Data Science Intern | Data Glacier, Pyraganj, India

May 2023-August 2023

- Conducted exploratory data analysis (EDA) on 300k+ rows of data and prepared a presentation about taxi market trends for investing.
- Collaborated in a team-work on datasets by analyzing 10+ different cleaning methods, building ML models for the project, and deployed a machine learning model using Flask, Heroku to create a web app that predicts the medical condition of a patient based on provided data.

Data Science Intern | MHA Management Holdings, Johannesburg, South Africa

May 2022-August 2022

- Worked on company's lead and sales data to detect significant factors of a successful lead using different data analysis techniques
- Identified trends in complex data sets using supervised and unsupervised learning techniques, used Tableau, Matplotlib for data visualization, implied machine learning algorithms- Random Forest and k-means clustering- to discern intricate patterns within the data, utilized Python libraries such as Scikit-Learn and Pandas for robust data analysis.

PERSONAL PROJECT & RESEARCH

AI-Powered Scheduling App for College Counselors, [Theraplane](#) (HackHarvard 2024)

- Built an AI platform using GPT-4 and RAG to prioritize student appointments by urgency, helping counselors manage high caseloads efficiently. Integrated with calendar systems to automate scheduling and notifications.

Tools: Python, GPT-4, RAG, Flask, HTML, Tailwind CSS, AI/ML, NLP

Real-Time Forex Analytics Platform, [CurrencyPairs](#) (HackHolyoke 2024 Best Finance Hack Winner)

- Developed a web app providing real-time forex market insights through a dynamic, interactive dashboard. Integrated live data from yFinance and OANDA API, with predictive analytics to support informed trading decisions. Built with Python, Flask backend, and Vue.js for a responsive UI.

Tools: Python, Flask, yFinance, OANDA API, Vue.js, HTML, CSS, JavaScript

Health Care Persistency Prediction Web App

- Developed a Flask-based web app for predicting patient persistence using a Random Forest model, with data analysis and feature engineering to enhance prediction accuracy. Integrated EDA and user-friendly access to machine learning insights.

Skills: Python, Flask, Scikit-learn, NumPy, Random Forest, Feature Engineering

LEADERSHIP & PROFESSIONAL DEVELOPMENT

Leadership Academy fellow 2024 | University of Massachusetts Amherst | MA, United States

June 2024

- Awarded scholarship to participate in the Leadership Academy, Gained skills in negotiation, leadership, product management, and networking

Lynk Research Scholarship Award 2024 | Mount Holyoke College| MA, United States

May 2024

- Awarded to the students with excellent research projects and presented in a conference.

MHC Leadership and Service Award 2023 | Mount Holyoke College|MA, United States

May 2023

- Participated in 10 different extracurricular activities throughout the semester with ECA credits, engaged in multicultural programs to academic focused activities, worked with peers on sharing their experience at Mount Holyoke college

Hall Senator | Mount Holyoke College | MA, United States

September 2023- Present

- Elected by peers, maintaining liaison between hall and Student Government Association.

President | *Bangladeshi Student Association* | Mount Holyoke College | MA, United States

October 2023 - Present

- Introducing Bengali culture, events to Mount Holyoke College Community with Bondhu Organization

Resident Advisor | Mount Holyoke College | MA, United States

December 2023 - present

- Facilitated a supportive community, enforced policies, provided mentorship, and organized events as a Resident Advisor, fostering a positive living environment within the college dorm