

Afsana Bhuiyan

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EDUCATION

Rensselaer Polytechnic Institute

Bachelor of Science in Computer Science

August 2020 - May 2024

- **Affiliations:** Girls Who Code (President), Rewriting the Code(Member), Opal(Mentee)
- **Relevant Courses:** Intro to Algorithms, Data Structures, Operating Systems, Database Systems, Human & Machine Learning

TECHNICAL SKILLS

Languages: Python, JavaScript, Java C++, C, SQL, HTML, CSS

Frameworks & Libraries: React, Flask, Node.js, Bootstrap Spring Boot, JUnit

Databases: PostgreSQL, Firebase

Developer Tools: Git, GitHub, VS Code, Linux

EXPERIENCE

PIECES

Software Engineer Intern

New York, NY

September 2025 – Present

- Developed a React + Flask feature that generates synthetic patient records using the Gemini API, producing detailed encounter histories and clinical summaries in structured JSON for over 100 simulated patients.
- Built an interactive React interface enabling real-time data generation and exploration, reducing manual test data setup time by 70% and improving prototype testing efficiency.
- Optimized backend data formatting and API handling to enhance response reliability and support integration with future medical summarization and analytics pipelines.

COOP Careers

Data Analytics Fellow

New York, NY

February 2025 – June 2025

- Applied SQL and Python with Google Colab to clean and analyze real-world datasets in a 16-week, peer-collaborative fellowship.
- Built and presented an interactive Tableau dashboard on 500+ films (2012–2016), highlighting ROI, budget-to-revenue trends, and genre profitability.

ISO New England

Software Engineer Intern

Holyoke, MA

June 2023 – December 2023

- **Summer Project:** Tested and optimized *Total Transfer Capability Calculator* (Java-based web app) used to model power transfer capacity across New England's grid; improved calculation speed by 4% through targeted JUnit testing and performance tuning.
- **Fall Project:** Developed an automated reporting system with Java, Spring Boot, Apache Camel, and Thymeleaf to extract data from PL/SQL databases and generate visualizations in automated emails, reducing manual reporting workload by automating email generation
- Presented both projects at a company-wide expo (100+ employees) and led a demo for a 10-person development team to support adoption of new backend workflows.

Rensselaer Polytechnic Institute

Troy, NY

Software Engineer Teaching Assistant

January 2023 – May 2023

- Led weekly office hours and exam review sessions to support 350+ students in mastering core computer science concepts.
- Graded 100+ programming assignments weekly and provided feedback, improving student understanding and performance.

Girls Who Code

Software Engineer Teaching Assistant

New York, NY

June 2022 – August 2022

- Led virtual coding lessons for 40+ high school students on web development fundamentals in JavaScript, HTML, and CSS, developing skills in technical presentation and communication.
- Guided students through 4 programming projects and provided mentorship on technical skills, project execution, and career exploration, fostering a supportive learning community.

PROJECTS

LinkUP | React, Node.js, Express, LangGraph, Google API

October 2025

- Developed the frontend interface for a web app that finds the fairest meetup spot by comparing users' public transit times.
- Built responsive React pages with integrated Google Maps API and collaborated with the Node.js + Express backend to ensure seamless data flow and dynamic map updates.

Genre Galaxy | Python, NetworkX

April 2024

- Engineered a graph analysis pipeline on 10,000+ Goodreads books to map co-occurrence across 100+ genres, leveraging Python and NetworkX for network construction.
- Applied graph algorithms to uncover reader cross-interest clusters and prototyped recommendation strategies for publishers and platforms to enhance personalization.