

# Afsana Bhuiyan

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## EDUCATION

### Rensselaer Polytechnic Institute

August 2020 - May 2024

*Bachelor of Science in Computer Science*

- **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

New York, NY

*Software Engineer Intern*

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

New York, NY

*Data Analytics Fellow*

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

Holyoke, MA

*Software Engineer Intern*

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

New York, NY

*Software Engineer Teaching Assistant*

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.