

Rudra Patel  
Jersey City, New Jersey, 07307  
[Rrp3827@gmail.com](mailto:Rrp3827@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

As an upcoming software developer, I bring a wealth of experience with numerous projects spanning various programming languages and operating systems. With a strong foundation in both technical expertise and project execution, I am committed to driving innovation and delivering high quality solutions in the dynamic field of software development.

## PROJECTS

---

### Chess Game Developer | Java, OOPs, ASCII Art, JavaFX, Android Present

- Built a strategic chess game in Java using **advanced algorithms**, featuring full move validation, check/mate detection, special moves, and file-based input/output for comprehensive gameplay and analysis.
- Designed and implemented a sleek ASCII art UI in Java, optimizing data structures for smooth user interaction and delivering an engaging visual experience despite graphical limitations.
- Successfully translated the chess game and UI to Android, showcasing adaptability and expanding gameplay potential to mobile devices.

### Kindergarten Classroom Simulation | Java, OOPs, Linked List, Arrays Spring '23

- Developed a comprehensive project, using Singly Linked Lists, 2D arrays, and Circular Linked Lists to model classroom activities.
- Efficiently managed student entry, seating arrangements, and a musical chairs game within the simulation
- Implemented fair student seating logic based on seating availability and height order, enhancing gameplay realism.

### Huffman Coding for Text Data Compression | Java, OOPs, Graph, Tree, Array Spring '23

- Designed and implemented a highly efficient Huffman Coding algorithm in Java, achieving up to a 60% reduction in file sizes.
- Ensured data integrity throughout the compression process, demonstrating advanced expertise in algorithmic efficiency and accuracy.
- Developed and applied graph traversal algorithms (DFS and BFS) to efficiently explore and analyze graph structures, solving problems like finding shortest paths and detecting connected components.

## SKILLS

---

Programming Languages: Java, C, C++, Python3(Numpy, Pandas, Matplotlib), R, PHP, MATLAB, Maple, Android development

Database Systems: MySQL, Microsoft Access, Oracle SQL

Web Technologies: HTML, CSS, Bootstrap, JavaScript, Git

Other Skills: JavaFX, Memory management, File I/O, File systems, Process management, IPC, Multitasking, Networking

## EDUCATION

---

### Rutgers University, New Brunswick, NJ Aug-22 – Dec-24(Expected)

Bachelor of Science, Computer Science

**Related Courses:** Intro to Computer Science, Data Structures & Algorithms, Computer Architecture, Software Methodology, Data Management, Data Visualization, Systems Programming, Numerical Analysis, Discrete Structures

## ACHIEVEMENTS

---

### Kaggle Competition Fall '22

- Secured a coveted top 3 position out of 250 participants through a data-driven approach focused on predicting Citi Bike demand.
- Implemented innovative feature engineering techniques, including the integration of weather and holiday indicators, significantly boosting model accuracy.
- Conducted fine-tuned hyperparameter optimization within R, aligning with competition guidelines to optimize models for efficient and CSV-ready predictions.

