

# Naman Pahwa

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## EDUCATION

### BIT MESRA

Integrated M.Sc. in Mathematics & Computing  
2021–2026 | Ranchi

CGPA: (8.52/10) (Up to 6<sup>th</sup> Semester)

### S R S Public School

CBSE AISSCE (12<sup>th</sup>) Passed in 2020 | Rohtak

Percentage: (88.2/100)

### Baba Banda Bahadur Public School

CBSE AISSE (10<sup>th</sup>) Passed in 2018 | Rohtak

Percentage: (85.6/100)

## LINKS

Gitub:// [Optimus-NP](#)

LinkedIn:// [Naman-Pahwa](#)

LeetCode:// [optimus\\_np](#)

Codeforces:// [optimus\\_np](#)

## SKILLS

### COMPUTER LANGUAGES

• C/C++ • Java • Python • SQL

### TECHNOLOGIES/PLATFORMS

• HTML • JavaScript • Tailwind CSS • JSON • GIT •  
Android • ReactJS • NodeJS • Express • Java Swing •  
Kotlin • OpenGL

### AREAS OF INTEREST

• Competitive Programming  
• Android App Development  
• Data Security  
• Web Development

### COMPUTER FUNDAMENTALS

• Operating Systems  
• Data Structures and Algorithms  
• Database Management System  
• Object Oriented Programming

## POSITION OF RESPONSIBILITY

• Led and organized various coding contests and technical workshops under the IEEE Chapter of BIT Mesra.

• Held the position of General Secretary in IET. I taught 300+ students in C++ workshop, covering Sieve and STL.

• Head Boy for My School during 10<sup>th</sup> Class. I managed Council's task allocation, fostering productivity and teamwork.

## SEMESTER PROJECTS

### Image Encryption/Decryption using Chaotic Maps | [GitHub](#):

Tech Stack: Python, Pandas, NumPy, OpenCV, Matplotlib

January 2024 – May 2024

- Conducted evaluation of chaos-based encryption techniques using the **Arnold Cat Map** and **Logistic Map** for image security.
- Implemented Arnold Cat Map to ensure robust security through permutation scrambling, effectively defending against potential attacks.
- Utilized Logistic Map for its computational efficiency, supplemented with additional security measures for enhanced protection.

### Securing Peer to Peer Communication in Android | [GitHub](#):

Tech Stack: Android, Advanced Encryption Standard, Diffie Hellman, SMS

July 2023 – December 2023

- Explored Peer-to-Peer (P2P) communication as a networking and distributed communication model.
- Implemented **Diffie-Hellman** for secure key exchange between peers.
- Utilized **Advanced Encryption Standard (AES-128)** to encrypt each message exchanged between peers. Ensured that received messages appear as chaotic sequences of characters outside the application.
- Maintained the original message accessible solely within the secure application environment.

### K Four in a Line | [GitHub](#):

Tech Stack: C++, Socket Programming, Open GL, MinMax Algo, Json-c, Make

January 2023 – May 2023

- Developed a **K-Four in a line** game supporting human vs. human, human vs. computer, and networked computer vs. computer modes.
- Implemented the **MinMax** algorithm to enable strategic decision-making for computer.
- Utilized **JSON** to incorporate features such as Game Resuming & viewing player statistics.
- Integrated **OpenGL library** to create an immersive user interface for gaming experience.
- Designed **modular code architecture** to efficiently manage game board, pieces, & moves.

## PERSONAL PROJECTS

### Cyclizer | [GitHub](#):

Tech Stack: Kotlin, Android Studio, Firebase Realtime Database

December 2023

- Developed an **Android app** in Kotlin facilitating item listing on shared server and enabling buyer-seller interactions.
- Integrated **Firebase Authentication and Realtime Database** for seamless user management and secure data storage.
- Implemented features for item listing management, including image uploading and display.
- Ensured secure user authentication and facilitated seller-buyer communication within app.

### Games in Java: Snake and Ladder & Ludo | [GitHub](#)

Tech Stack: Java, Java Swing, Java Speech API, JSON

June 2023

- Developed **Java Swing-based GUI** games for Ludo and Snake & Ladder supporting up to 4 human players.
- Utilized Java Collections to manage game state efficiently.
- Implemented Java Speech APIs for interactive announcements during gameplay.
- Incorporated **JSON file storage** for enabling game pause/resume functionality and player statistics.

## ACHIEVEMENTS

• Ranked Pupil at Codeforces • Ranked among top 300 teams out of 1100+ teams in Global Economics Case Competition (GECC) – 2024 (Organized by IIM Trichy).