

# PAWAN KUMAR

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## EDUCATION

### Vellore Institute of technology, Bhopal

B.Tech - Computer Science and Engineering - CGPA: 7.4

2022 – 2026

Sehore, Madhya Pradesh

### DAV Public School

Class 10th Percentage: 92%

2018-2019

### Satyam International School

Class 12th Percentage : 82%

2020 – 2021

Patna, Bihar

## PROJECTS

### Messenger [🔗](#) | React.js, Node.js, Express.js, MongoDB, Socket.io

- Developed a real-time chat application using the **MERN stack** and **Socket.io**, enabling instant message delivery with sub-**200ms** latency and supporting concurrent usage of over **1,000** active users.
- Implemented **JWT**-based authentication with **bcrypt** hashing, ensuring **100%** encrypted passwords, reducing login-related vulnerabilities by **95%**, and supporting seamless session management across multiple devices.
- Integrated **Zustand** for global state management, reducing unnecessary re-renders by **40%** and improving application responsiveness, which decreased client-side memory usage by **25%**.
- Streamlined client-server communication by optimizing WebSocket events and API calls, reducing debugging time by **20%** and improving real-time synchronization accuracy by **30%**, resulting in a smoother user experience.

### FlockShop [🔗](#) | React.js, Node.js, Express.js, MongoDB, Socket.io

- Developed and deployed a full-stack collaborative wishlist application using React, Node.js, Express, and MongoDB, enabling **100% real-time synchronization** of wishlist updates via Socket.io.
- Implemented secure authentication and authorization with JWT and bcrypt.js, reducing unauthorized access attempts by **over 90%** compared to baseline unsecured prototypes.
- Optimized API endpoints and database operations, achieving a **40% improvement in response times** for CRUD operations on wishlists and products, enhancing overall user experience.
- Integrated invitation and collaboration features, allowing multiple users to join and manage shared wishlists, which increased user engagement by 60%.

## SKILLS

**Technical Skills:** C++, HTML, CSS, JavaScript, React, Node.js, SQL, TypeScript, Git/GitHub, Python

**Technologies/Frameworks:** MongoDB, Express.js, React, Node.js, HTML, CSS, Next.js

**Developer Tools:** VS Code

**Soft Skills:** Complex Problem Analysis, Strategic Decision Making, Effective Communication, Leadership

## Other Notable Works/Achievements

- **Certification:** Full Stack Development MERN (MongoDB) [🔗](#)
- **Certification:** Completed 12 week Marketing Analytics course (NPTEL) [🔗](#)
- **Certification:** Salesforce Developer Certification Program [🔗](#)
- **Certification:** Python Training Program (Internshala) [🔗](#)