

SUDHIR MATHUR

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EDUCATION

Chandigarh University

Bachelor of Engineering in Computer Science & Engineering – CGPA: 7.0/10.0

Chandigarh, India
Aug 2022 – May 2026

Saarthak GIMSS School (HBSE)

Senior Secondary – Percentage: 92.4%

Chandigarh, India
May 2020 – March 2021

TECHNICAL SKILLS

Programming Languages: C++ (Core), JavaScript, SQL, C

Web Technologies: HTML, CSS, React.js (Basic), Node.js, Express.js, MongoDB, RESTful APIs

Databases: MySQL, MongoDB, SQL

Developer Tools: Git, GitHub, Linux, GCC, System Programming, POSIX

Core Competencies: Data Structures & Algorithms, OOP, Operating Systems, DBMS, System Design, Agile

PROJECTS

Custom Linux Shell | C++, Linux, POSIX, System Programming, GCC | GitHub

2024

- Developed a fully functional Linux shell using **POSIX system calls** (fork, exec, pipe, dup2, waitpid) with advanced features including I/O redirection, piping, background execution, and signal handling
- Achieved **95% Bash compatibility** across **100+ test scripts**, demonstrating robust error handling and edge case management
- Implemented **process management**, file descriptor manipulation, and inter-process communication for seamless command execution
- Utilized system-level programming to create a performant shell environment with minimal overhead

Real-Time Chat Application | Html, Css, Node.js, Express.js, MongoDB, Socket.io | Frontend | Backend

2024

- Built a scalable real-time messaging application using **MERN stack** with Socket.io, achieving **sub-200ms latency** for instant communication
- Implemented secure **JWT-based authentication** and **bcrypt password encryption** to protect user credentials and session data
- Designed responsive UI using Bootstrap ensuring seamless experience across desktop and mobile devices
- Deployed production application with **Vercel** (frontend) and **Render** (backend), using **MongoDB Atlas** as cloud database ensuring **99.9% uptime** and reliable cloud infrastructure

Weather Application | HTML, CSS, JavaScript, OpenWeatherMap API | GitHub

May 2024

- Developed a responsive weather application with real-time data fetching from OpenWeatherMap API
- Displayed comprehensive weather information including temperature, humidity, wind speed, and location-based results
- Ensured clean UI design and optimized API response handling for fast load times and smooth user experience

Simon Memory Game | HTML, CSS, JavaScript | GitHub

July 2024

- Created an interactive Simon memory game implementing pattern generation algorithms and player input validation logic
- Integrated sound effects and color-based visual feedback to enhance user engagement and game experience
- Demonstrated front-end development skills with DOM manipulation, event handling, and game state management

TRAINING & CERTIFICATIONS

Internet of Things: Design Concepts & Use Cases – NPTEL (81%)

Dec 2024

Foundations of Cloud IoT Edge ML – NPTEL (78%)

Apr 2025

Computer Organization and Architecture (Elite) – NPTEL (69%)

Oct 2023

Flipkart GRiD 6.0 – Software Development Challenge

Aug 2024

Web Application Development – Chandigarh University Summer Training (HTML, CSS, JS, MySQL)

Jun-Jul 2023

ACHIEVEMENTS & LEADERSHIP

Competitive Programming: Solved **300+** Data Structures & Algorithms problems on LeetCode focusing on optimization

Unstop Campus Ambassador (2023-24): Organized and promoted tech events at university level, boosting student engagement by **40%**

NCC Cadet (2018-19): Completed National Cadet Corps training, developing leadership, discipline, and teamwork skills

Extracurricular: Active cricket player emphasizing fitness, discipline, and collaborative team dynamics **Passionate about cricket and travelling**