

# KARAN PURKAIT

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## PROFESSIONAL SUMMARY

Computer Science Engineering student with hands-on experience in full-stack web development and real-time systems. Proven ability to collaborate in team environments and contribute to open-source and academic projects. Seeking an entry-level software engineering role to apply technical skills in building scalable and reliable systems.

## EDUCATION

**Bachelor of Engineering in Computer Science and Engineering** **Aug 2022 – May 2026**  
University Institute of Technology, The University of Burdwan, West Bengal | CGPA: 7.42/10.00  
**Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Computer Networks, Object-Oriented Programming, Database Management Systems

## TECHNICAL SKILLS

**Languages:** JavaScript (ES6+), Java, Python, SQL, HTML5, CSS3  
**Front-End:** React.js, Redux, Material-UI, Tailwind CSS, Bootstrap, Responsive Web Design  
**Back-End:** Node.js, Express.js, RESTful API Design, JWT Authentication, Middleware Development  
**Databases:** MongoDB, MySQL, Schema Design, Indexing  
**DevOps Tools:** Git, GitHub, Postman, VS Code, npm, Docker (basic)  
**Testing:** Jest, Unit Testing, API Testing, Debugging

## PROJECTS

**Healthcare Decision Support System** | *MERN Stack, JWT, RESTful APIs* **Jan 2025**  

- Designed and developed a MERN-based healthcare system serving 3 user roles and managing 1,000+ records with JWT-secured access
- Implemented JWT-based authentication with role-based access control for multiple user roles
- Created RESTful API endpoints and optimized MongoDB queries to improve data retrieval performance
- Built a responsive user interface using React.js and Material-UI, incorporating feedback from test users

**Real-Time Video Conferencing Platform** | *WebRTC, Socket.IO, Node.js* **Mar 2024**  

- Developed peer-to-peer video conferencing application supporting 10+ concurrent users with HD streaming using WebRTC
- Integrated Socket.IO for real-time signaling with  $\leq$  50ms latency; implemented secure room management with JWT
- Enhanced stability through adaptive bitrate streaming, maintaining 95% connection reliability on varying networks
- Handled client-side media permissions and basic error scenarios to ensure a smooth user connection flow

## PROFESSIONAL EXPERIENCE

**Web Developer Intern** | *ShadowFox (Remote)* **Aug 2024**  

- Improved full-stack web application features using the MERN stack as part of a development team
- Built and tested RESTful APIs with JWT-based authentication to support secure user login and access control
- Designed responsive user interfaces using React.js and Material-UI, ensuring compatibility across devices
- Worked with MongoDB to improve data retrieval efficiency; collaborated using Git in an Agile-based development workflow

## LEADERSHIP & EXTRACURRICULAR ACTIVITIES

**Co-Lead, CodeBird Coding Club** | University Institute of Technology **2023 – 2025**  

- Led team of 8 members organizing 20+ technical events with 500+ participants; mentored 100+ students in development
- Increased club membership by 150% through strategic initiatives and technical workshops

**Project Admin, ResCon (Open Source)** **2024 – 2025**  

- Managed open-source project with 500+ GitHub stars and 15+ contributors; oversaw code reviews and project roadmap
- Established CI/CD workflows and contribution guidelines, reducing merge conflicts by 70%

**Active Member, National Service Scheme (NSS)** **2022 – Present**  

- Assisted in planning and executing community service activities focused on social awareness and civic engagement
- Conducted digital literacy programs for 500+ rural citizens; completed 150+ hours of community service

## INTERESTS

**Personal:** Writing, Team Sports, Music, Community Engagement  
**Technical:** Open Source Development, Artificial Intelligence, Competitive Programming