CHANDAN SAROJ

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PROFESSIONAL SUMMARY

Software Development Engineer and B.Tech graduate (8.7 CGPA). Having **2+ years** of experience in building scalable web applications using the **MERN Stack**, **ASP.NET**, and **REST APIs**. National-level hackathon winner with a focus on secure backend architecture and high-performance **React** frontends.

TECHNICAL SKILLS

- **Languages:** JavaScript (ES6+), **TypeScript**, Node.js, Python, C#, Java, PHP, C++, SQL.
- **Frontend: React**, **Redux**, UI/UX Design, Framer Motion Animations, Responsive Web Design.
- **Backend: Node.js**, **Express.js**, **REST APIs**, Django, ASP.NET Core.
- **Databases: MongoDB**, Microsoft SQL Server, MySQL, Firebase.
- **Other Tools:** Git/GitHub, **TypeScript**-based VS Code Extensions, SSRS, Postman, Unit Testing.

PROFESSIONAL EXPERIENCE

NIELIT (National Institute of Electronics & IT)   **May 2024 – Present**
Software Development Engineer   *Ropar, Punjab*

- Architected SaaS platform features using **React** for dynamic UI and **Node.js/TypeScript** for productivity tools.
- Engineered secure, scalable **REST API** gateways handling 500+ concurrent requests with 99.9% uptime.
- Contributed to a **VS Code extension (Amigo)** using **TypeScript** to manage project hygiene and unused files.
- Implemented **SHA-256 encrypted** backend systems for 30,000+ files to ensure zero-knowledge security.
- Managed full-stack data lifecycles for national exam and admission portals using SQL and **SSRS**.

NIELIT (National Institute of Electronics & IT)   **2023 – 2024**
Web Development & AI/ML Intern   *Chandigarh, India*

- Developed a full-stack Learning Management System (LMS) using **React** and Django.
- Led the **Identity Card Automation System** project using Python, **MongoDB**, and **JavaScript**.
- Optimized performance by enhancing **RESTful API** modules to improve interoperability between modules.

HACKATHONS & ACHIEVEMENTS

- **2nd Runner Up (Team Source Code):** Paranox 2.0 National Hackathon. Ranked in top 3 out of 1,552 projects and 20,119 students nationwide at Newton School of Technology.
- **Best Research Paper Award:** NICEDT 2025 in Artificial Intelligence and Machine Learning.
- **Amazon ML Challenge:** Participated in the 2023 National Hackathon to build high-accuracy ML models.

PROJECTS

SmartLane AI – Intelligent Traffic Management System | *YOLOv8, TensorFlow, Streamlit*

- Developed an AI platform using YOLOv8 and a custom CNN (99.2% accuracy) to prioritize emergency vehicles.
- Optimized 4-way intersection traffic flow with real-time analytics and adaptive signal timing logic.

Secure Question Paper Platform | *Node.js, SQL Server, React*

- Developed a leak-proof platform using SHA-256 hashing for question data, ensuring zero plaintext exposure.
- Implemented high-security backend protocols to protect intellectual property for academic institutes.

Learning Management System for Training Institute | *Django, React, MongoDB*

- Built a full-stack platform using Django and React for user access to resources, articles, and notices.
- Integrated responsive design and flexible database handling with MongoDB adaptable schemas.

Identity Card Automation System | *Django, Python, MongoDB*

- Automated generation system using Django and MongoDB to streamline ID card creation for staff.
- Utilized JavaScript for user-friendly template overlays and efficient backend image processing.

EDUCATION & RESEARCH

B.Tech in Computer Science Engineering | BPIT, Delhi | **CGPA: 8.7**
Research Publications (Springer Journals):

- Generating Synthetic House Floor Layout Images Using Diffusion Models (Springer, 2025).
- Resume Summarization - An Application of Generative AI (Springer, 2024).
- Audio Classification Using Deep Learning (Springer, 2025).
- Assessing Online Products Using NLTK Based Machine Learning Model (ICIAC, 2023).