Safal Kumar

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Summary

Final-year Information Technology student with a strong foundation in algorithms and systems software. Passionate about enhancing operational efficiency by developing, deploying, and integrating scalable internal business applications. Experienced in building custom full-stack solutions that automate complex workflows and solve critical business problems, with a strong command of C++ and JavaScript.

Projects

RadNow - Real-Time Social Discovery Application (Source Code)

- **Technologies: React Native, Redux, Node.js, MongoDB, Java, Socket.IO**
- **Led a 4-member team** in the end-to-end design and development of a cross-platform application, defining the technical architecture and feature roadmap.
- **Developed a custom Java native module** for Android to enable precise 20-meter location tracking, demonstrating the ability to integrate platform-specific code into a larger system.
- **Engineered a scalable backend** with MongoDB aggregation pipelines, reducing query response times by 40% and ensuring reliable data handling for a growing user base.
- **Enhanced application security by implementing JWT authentication and authorization**, resulting in a 15-point increase in security score and decreased unauthorized access attempts by 10%.

Campus Recruitment & Workflow Automation Platform (Link) (Source Code)

- **Technologies: MERN Stack (React, Node.js, Express, MongoDB), RESTful APIs**
- **Automated 10+ manual administrative tasks** by translating business requirements from 4 stakeholder groups (Students, TPO, Management, Companies) into a centralized platform.
- **Engineered secure, role-based workflows** for over 4 distinct user roles, implementing multi-level access control to protect sensitive placement data.
- **Developed over 25 RESTful API endpoints** to manage 5+ core data models (students, jobs, etc.), forming the backbone of the application's business logic.
- **Built a real-time notification system and dynamic dashboards**, reducing the need for manual status inquiries by an estimated 90% and improving process transparency.

Competitive Programming

- **LeetCode: Knight** (Peak Rating: 1994) — **Codeforces: Specialist** (Peak Rating: 1548)
- Solved **1100+ problems**, developing deep expertise in data structures, algorithms, optimization, and debugging.
- Achieved **Global Rank 364** (Top 1%) in LeetCode Biweekly Contest 144.
- Achieved **Global Rank 1026** (Top 3%) in Codeforces Round 1022 (Div. 2).

Technical Skills

- **Languages:** C++, Java, JavaScript (ES6+)
- **Backend & APIs:** Node.js, Express.js, RESTful APIs, Web Services (Socket.IO)
- **Databases:** SQL, MongoDB
- **Frontend:** React, React Native, Redux, HTML, CSS, TailwindCSS
- **Developer Tools:** Git, GitHub, Postman, JWT, Agile Workflows, Code Review Practices
- **Core CS Concepts:** Data Structures & Algorithms, Operating Systems, Database Systems, Computer Networks

Education

Harcourt Butler Technical University, Kanpur

- B.Tech in Information Technology, CGPA: 8.6   **2022 - 2026**