# Akhilesh Chaurasiya

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**Software Engineer | Linux System Programming & Full Stack Development | Immediate Joiner**

I am a Software Engineer with 2.5+ years of experience in Linux system programming and full stack development. Skilled in C/C++ (C++11/14/17), I have worked on multithreaded applications using shared memory, sockets, and POSIX APIs. On the backend, I have experience with .NET Core, EF Core, and PostgreSQL for building scalable RESTful APIs and real-time systems with SignalR and WebSockets. I'm also proficient in frontend technologies like React.js, JavaScript, HTML, and CSS. With a solid grasp of TCP/IP, TLS, SSH, and AWS services (EC2, S3, SES, SNS). Ready to join immediately.    **About Me (in Detail**)

## Education:

**Motilal Nehru National Institute of Technology (NIT), Allahabad**                    **July 2017 – May 2021**
*Bachelor of Technology – Computer Science and Engineering*

## Professional Experiences:

**Planys Technologies Pvt Ltd, Chennai**                                        **July 2024 – February 2025**
Assistant Software Engineer

- Developed a modular WebSocket and HTTP server in C++ for real-time communication between the topside control unit and the underwater ROV, ensuring low-latency command and data exchange under constrained network conditions.
- Implemented shared memory IPC using Boost.Interprocess to enable high-throughput, zero-copy data transfer between mission-critical modules, improving efficiency and system responsiveness.
- Integrated serial-based sensor interfaces (GPS, altimeter) using Boost.Asio with both synchronous and asynchronous modes, incorporating robust error handling, reconnect strategies, and diagnostic feedback.
- Designed a thread-safe logging and monitoring system for sensor data and joystick inputs via vendor SDKs, with support for event tracing, system health checks, and fault tolerance across multithreaded components.

**Promact Infotech Pvt Ltd, Pune**                                            **March 2022 – June 2023**
Software Engineer I

- Designed and maintained scalable relational schemas in PostgreSQL, implementing entity relationships, indexes, and constraints to support core modules like users, messages, meetings, and notifications using Entity Framework Core.
- Structured clean, versioned RESTful APIs with intuitive URL routing, adhering to best practices for resource modeling, HTTP methods, and controller-layer separation in ASP.NET Core.
- Developed a robust real-time chat system using SignalR, featuring role-based group messaging with secure JWT-based authentication and authorization across both REST and WebSocket channels.
- Integrated Zoom API to manage video conferencing workflows (scheduling, joining, hosting), and built scalable background services to dispatch real-time bell notifications and email alerts via AWS SES.

**DeltaX, Bengaluru**                                                    **August 2021 – February 2022**
Full Stack Developer Intern

- Developed a full-stack music player application with a responsive frontend using Vue.js, HTML5, CSS3, and JavaScript, implementing core features like play, pause, volume control, and playlist browsing; on the backend, designed and built RESTful APIs using ASP.NET Core, applying best practices in URL routing, JWT-secured endpoints; modeled a normalized SQL Server database schema to efficiently manage users, playlists, songs, and playback history with optimized queries and relational integrity

## Technical Skills:

- **Languages:** C, C++, C# (.NET Core), Python, Core Java, JavaScript, HTML, CSS, SQL, Bash, PowerShell, Git
- **Frameworks & Libraries:** STL, Boost (Asio, Beast), Linux APIs, ASP.NET Core, Abp.io, Entity Framework Core, React.js, Redux, Vue.js
- **Databases & DevOps:** PostgreSQL, SQL Server, NoSQL (MongoDB), Docker, GitHub, Bitbucket, Github Action, Postman, Swagger
- **Cloud & Tools:** AWS (EC2, IAM, S3, SES, SNS), Visual Studio 2022, Visual Studio Code, TDD, BDD, Agile, Scrum, ChatGPT, Gemini
- **Core Concepts:** System Design, Data Structure & Algorithm (DSA), Object Oriented Programming (OOP), Operating System (OOP), RAII, SOLID Principles, Design Patterns, RESTful APIs Design, Database Design, Multithreading, Concurrency, IPC (Shared Memory, Sockets), Database Management System (DBMS)
- **Networking & OS:** TCP/IP, HTTP, WebSocket, TLS, SSH, ARP, Linux (Ubuntu, CentOS), Windows

**Pond Survey Mapping System Source** :              **Source Code: GitHub**      **Live Server:  Deployed App (Hosted on Render)**
**Tech Stack:** C++ (Boost.Asio, Boost.Beast, spdlog, nlohmann_json), React.js, Leaflet, Docker

- **Backend (C++):** Developed a backend using Boost.Asio for asynchronous serial communication with GPS and sonar sensors. Served RESTful APIs using Boost.Beast to start/stop logging and deliver structured JSON data. Implemented multithreading, config file parsing, logging with spdlog, and graceful shutdown via OS signal handling. Used socat to mock serial devices for testing.
- **Frontend (React.js):** Built a responsive React.js web interface with Leaflet to display live GPS paths and sonar depth data on an interactive map. Added client-side routing, live data display, and CSV download functionality for post-mission analysis.
- **Deployment (Docker):** Packaged both frontend and backend services using Docker for consistent deployment across systems. Enabled easy local testing and remote hosting by containerizing the entire application.

## Achievements:

- Competitive Programming: Solved 500+ problems on LeetCode. **LeetCode Profile**
- Academic Excellence: Secured an All India Rank of ~10,000 in JEE Advanced (top ~0.8%) and ~18,000 in JEE Main (top ~1.5%) out of 1.2 million candidates in 2017.
- Scholastic Honors: Ranked first in college in both 10th and 12th grade board examinations.