

# NEELU KUMAR

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## Professional Summary

Third-year Computer Science student at IIIT Sri City with hands-on experience in full-stack development using **React.js**, **Node.js**, and **Python**. Strong foundation in **Data Structures & Algorithms** with proven ability to build production-ready applications. Passionate about backend systems, microservices architecture, and writing clean, maintainable code.

## Technical Skills

**Frontend:** React.js, Next.js, JavaScript (ES6+), HTML5, CSS3, Responsive Design  
**Backend:** Node.js, Express.js, Python, RESTful APIs, JWT Authentication  
**Languages:** Python, C++, Java, JavaScript, C  
**Databases:** MongoDB, MySQL, PostgreSQL  
**Tools & Technologies:** Git/GitHub, Docker (learning), Postman, VS Code, Linux  
**CS Fundamentals:** Data Structures & Algorithms, OOP, DBMS, Operating Systems  
**Testing & Performance:** Unit Testing, API Testing, Code Optimization, Performance Profiling

## Education

**Indian Institute of Information Technology, Sri City**

**Chittoor, Andhra Pradesh**

*Bachelor of Technology in Computer Science*

*August 2023 – Present (6th Semester)*

- **Relevant Coursework:** Data Structures, Algorithms, Database Management, Operating Systems, Computer Networks, Web Technologies

## Projects

**Full-Stack Task Management Application** | *React.js, Node.js, Express.js, MongoDB*

**Oct 2024 – Dec 2024**

- Developed a complete MERN stack application with user authentication, CRUD operations, and real-time updates
- Implemented **RESTful APIs** handling 15+ endpoints for user management, task operations, and analytics
- Built responsive UI with React hooks (useState, useEffect, useContext) and component-based architecture
- Integrated **JWT authentication** with refresh tokens, password hashing using bcrypt, and protected routes
- Designed MongoDB schemas with indexing for optimized query performance (40% faster response times)
- Deployed backend on Railway/Render with environment-based configuration management

**Secure Authentication & Authorization System** | *Node.js, Express.js, JWT*

**Sep 2024 – Oct 2024**

- Built production-grade authentication system with **JWT access/refresh token** mechanism
- Implemented role-based access control (RBAC) with admin, user, and guest permissions
- Added security features: password hashing (bcrypt), rate limiting, CORS configuration, input validation
- Created middleware for token verification, error handling, and request logging
- Wrote API documentation with example requests/responses for all authentication endpoints

**E-Commerce Product Ranking Microservice** | *Python, FastAPI, Pandas*

**Jul 2025 – Aug 2025**

- Designed microservice to rank products based on ratings, reviews, and sales analytics
- Processed and analyzed datasets with **10,000+ products** using Pandas for data preprocessing
- Built REST API endpoints returning paginated, sorted product lists with filtering capabilities
- Implemented caching strategy reducing response time by 60% for repeated queries
- Created comprehensive unit tests achieving 85% code coverage

**Real-Time Chat Application** | *React.js, Node.js, Socket.io*

**May 2025– Jun 2025**

- Built real-time messaging application supporting multiple chat rooms and private conversations
- Implemented **WebSocket connections** using Socket.io for bi-directional communication
- Added features: typing indicators, online status, message history, emoji support
- Designed scalable backend architecture handling concurrent connections and message broadcasting
- Created responsive UI with modern design principles and mobile-first approach

**Machine Learning Model Deployment** | *Python, Flask, Scikit-learn*

**Mar 2025 – Apr 2025**

- Trained classification model for predicting house prices with 87% accuracy
- Built Flask API for model serving with POST endpoints accepting JSON input
- Implemented data preprocessing pipeline for feature engineering and normalization
- Created prediction endpoint integrated with frontend for real-time predictions

## Coding & Problem Solving

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**LeetCode:** Solved 200+ problems (Easy: 100+, Medium: 80+, Hard: 20+)

**GeeksforGeeks:** Active problem solver with focus on DSA fundamentals

**Core Strengths:** Arrays, Linked Lists, Trees, Graphs, Dynamic Programming, Searching & Sorting

**Participation:** Online coding contests and hackathons

## Key Strengths

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Strong problem-solving with Data Structures & Algorithms | Experience with full development lifecycle | Quick learner - rapidly adapts to new technologies | Code quality focused | Team collaboration through Git workflows | Performance optimization and debugging skills