

# Rinka Yadav

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## EDUCATION

- National Institute of Technology Tiruchirappalli** Tamilnadu, India  
*Bachelor of Technology - Chemical Engineering; GPA: 7.40* 2021 - 2025  
*Courses: Data Structures and Algorithms, Mern Stack, DBMS, Operating System, Artificial Intelligence, Machine Learning, Networking*

## SKILLS SUMMARY

- Languages:** C, C++, Python, JavaScript, TypeScript
- Frameworks:** React.js, Next.js, Scikit, ExpressJs, NodeJs, Bootstrap, Machine Learning
- Tools:** GIT, GitHub, Linux, PowerBI
- DataBases:** MongoDB, MySQL
- Soft Skills:** Leadership, Blog Writing, Public Speaking, Time Management

## EXPERIENCE

- Social Media Application**  
*Summer Research Internship-(NITT)* May 2023 - July 2023
  - Research Internship:** Worked under Dr. Madhukrishna, developing a social media application from scratch using the MERN stack.
  - Interactive Social Media Platform:** Developed using **MERN** (MongoDB, Express.js, React.js, Node.js), enabling content sharing, community participation, and topic exploration.
  - Core Functionalities:** Developed user authentication, pagination, and list rendering using RESTful APIs, enhancing a seamless and interactive user experience.
- Silicon analysis using SW model**  
*Summer Research Internship-(NITT)* May 2024 - July 2024
  - LAMMPS Scripting:** Developed scripts for silicon atoms to analyze molecular dynamics in semiconductor synthesis using the SW potential model for diamond crystal structures.
  - Data Generation:** Produced temperature and pressure data through LAMMPS scripts for detailed analysis.
  - Visual Graphical Analysis:** Used VMD software for visual analysis, examining molecular dynamics and thermodynamic properties, performed data visualization with matplotlib and pandas in Python.

## PROJECTS

- Freelancing Project - Product Management Web Application:** I designed and implemented a fully functional platform that enables users to showcase and advertise their product details, utilizing **MERN**(MongoDB, Express.js, React, and Node.js). The platform includes **secure** login and registration features, and robust admin routes for effective product and user management. Additionally, I implemented **SEO optimization** ,product search functionality by categories and added pagination for better user experience. This was complemented by the use of **RESTful APIs**,ensuring efficient data handling and seamless frontend-backend integration.
- Medical Insurance Price Prediction ( Machine Learning ) :** Developed a medical insurance price prediction model through exploratory data analysis, outlier handling, and categorical feature encoding. Built and optimized machine learning models, including Linear Regression, RandomForest, and XGBoost, with **cross-validation** and hyperparameter tuning. Deployed the final XGBoost model for accurate predictions and analyzed feature importance to enhance model performance.
- Online Payment Fraud Detection ( Machine Learning ) :** Developed an online payment fraud detection system using Python and machine learning models like **XGBoost**, RandomForest, and Logistic Regression to accurately predict fraudulent transactions. Conducted data preprocessing and feature engineering, including categorical encoding and correlation analysis, to optimize model input. Achieved high model performance by training multiple classifiers and evaluating with ROC AUC scores and **confusion matrix** analysis, showcasing expertise in fraud detection.

## ACHIEVEMENTS

- Solved 2000+ problems on different coding platforms (leetcode, CSES, CodeChef, gfg etc).
- Secured Top 50 rank in Code Like Ada hackathon conducted by LG Ad Solutions.
- Secured 1st place in the Code-A-Thon by Spider RD Club and Women Inclusivity Network (WIN NITT)
- Secured 15th rank in a Hackathon- Python Challenge conducted by Force (coding club of NIT TRICHY).
- Cleared sheCodes hackathon conducted by Airtel.

## VOLUNTEER EXPERIENCE

- Manager, Chemistry Mentor, Ignitte** NITT, Tamilnadu  
*Mentored underprivileged students in JEE, creating materials, grading , performance analysis.* Mar 2021 - Present
- Manager, Team WebOps, ALCHEMY:** NITT, Tamilnadu  
*Coordinated Web-Dev Team for Alchemy, the national symposium of Chemical Engineering.* Jan 2018 - Present