# MUNJAM NAVADEEP

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#### **EDUCATION**

# Indian Institute of Technology, Bhilai

2022 - Present

B. Tech - Computer Science and Engineering

Bhilai, Chattisgarh

#### PROJECTS

## Full Stack Blog Platform 🗷 | React, NextJS, Database - Postgress

Jan 2025 - Feb 2025

- Designed a relational database schema with PostgreSQL and Prisma ORM, modeling 5+ user relationships and storing 1,000+ posts efficiently.
- Implemented secure authentication using Clerk, supporting 2 OAuth providers and email/password authentication, ensuring 100% security compliance.
- Designed database schema with PostgreSQL and Prisma ORM, modeling user relationships and posts.
- Built 4 CRUD operations (Create, Read, Update, Delete) for blog posts, implementing role-based authorization checks with 99.9% accuracy
- Deployed on Vercel with CI/CD automation, reducing manual deployment time by 70%.
- Technologies Used: Next.js 14, TypeScript, Tailwind CSS, Prisma, PostgreSQL, Clerk, Vercel ,CI/CD for automation .

## **Terminal Shell Development ☑** | C, Unix System Programming, Make

June 2024 - July 2024

- Developed a custom Linux shell with core command execution capabilities using fork/exec system calls.
- Implemented 15+ standard commands including 1s, cp, mv with proper error handling and user feedback.
- Added custom features like gexit for graceful exit and command history tracking.
- Optimized performance through **memory management** and modular code design with .h/.c files.
- Implemented **build automation** using Makefile with compilation flags and clean targets.

# Mini GO Compiler 🗗 | C, Flex, Bison, Compiler Design

Dec 2023 - April 2024

- Developed a **compiler** for a subset of GO language with syntax analysis and semantic checking capabilities.
- Implemented **symbol table management** for both global and local variables with operator overloading resolution.
- Supported function recursion with visual parse tree and Abstract Syntax Tree (AST) generation.
- Built robust error-handling with compile-time error recovery, detecting and reporting **syntax/semantic** issues with 95% accuracy.
- Achieved 5% parsing failure rate on valid Go subset programs through rigorous grammar refinement.
- Utilized compiler construction tools including **Flex** for lexical analysis and **Bison** for parsing.

#### TECHNICAL SKILLS

Languages: C, C++, Python, JavaScript, TypeScript

Markup/Styling: HTML, CSS, Tailwind CSS

Developer Tools: Git, GitHub, Docker, Kubernetes, Postman, VS Code

Frameworks: Next.js, React, Express Cloud/Databases: MongoDB, Mongoose

Data Analysis & Visualization: NumPy, Pandas, Seaborn, Matplotlib

Coursework: Web Development, Data Structures and Algorithms, Operating Systems, Compiler Design, Machine

Learning, NLP

Areas of Interest: DevOps, Web Development, ML

#### ACHIVEMENTS

1st place Code Cursade Hackathon among 24 teams organized by the Coding Club at IIT Bhilai.2024

#### **EXTRACURRICULAR**

- 3KM Marathon Champion: Won 3rd place out of 18 in 2021 Intra-College Competition (Timing: 10:47)
- **DesignX Member** (2023-2024): Designed 3+ institutional event posters using Figma and Adobe Suite with 60+ impressions