

ADITYA SINGH

NEW DELHI

☎ +91 6392668977

✉ fedelio.0507@gmail.com

🌐 linkedin.com/in/singh-adi

🔗 [Adit0507](#) [Proof of Work](#)

Experience

StellarByte

January 2024 – April 2024

FrontEnd Developer

Gurugram, Haryana

- Led the execution of a **pixel-perfect** landing page from inception to delivery for the first client project, demonstrating strong proficiency in **Next.js** and attention to detail in **meeting client specifications**.
- Spearheaded comprehensive **UI testing** initiatives for the second client project, ensuring optimal functionality and user experience across various devices and screen sizes.
- Working closely with designers and other team members to translate client requirements into tangible front-end solutions, fostering effective communication and project alignment.

Skilzen

May 2023 – August 2023

Front End Engineer Intern

Bangalore, Karnataka

- Worked on **College Mentor** - a platform being **built for students choosing colleges and courses**.
- Learned and worked with Directus(Headless CMS) to handle all the blog content of the platform.
- Developed a feature through which the **blogs can be easily shared** on Social Media platforms(Twitter, LinkedIn, Facebook) with a **simple click**.
- Implemented **Open Graph Protocol** to **increase social media shareability** of the blogs when being shared on different platforms.

Projects

AdiDB | 🌐 | Go

- Built a database engine from scratch in Go with ACID compliance and concurrent transactions, demonstrating expertise in database internals.
- Implemented B+ Tree indexing and FreeList memory management for optimized data storage and retrieval.
- Designed and built SQL-like parser and query engine supporting core database operations (CREATE, INSERT, UPDATE, SELECT)
- Developed transaction management system with concurrent operations and deadlock prevention to ensure data consistency.

Interpreter | 🌐 | Go

- Implemented a comprehensive MonkeyLang interpreter in Golang, supporting **C-like syntax, variable bindings, and multiple data types including integers, booleans, strings, arrays, and hash structures**
- Built a set of **built-in functions** and **designed a macro system**, extending MonkeyLang's core capabilities and showcasing language design skills
- Developed a **robust parser and lexer** to handle MonkeyLang's syntax, efficiently translating source code into an abstract syntax tree.

Ray Tracer | 🌐 | Go

- Developed a **3D ray tracer** in Golang that simulates light interactions (**reflection, refraction, and shadows**) to render realistic images.
- Implemented **specular reflection** and **refraction** calculations to **simulate realistic light behavior** when interacting with reflective and transparent surfaces, such as glass and water.
- Gained hands-on experience with low-level graphics rendering.

Technical Skills

Languages: Go, TypeScript, JavaScript, C++, HTML/CSS

Technologies/Frameworks: NextJS, ReactJS, TailwindCSS, Framer Motion

Developer Tools: VS Code, GitHub, Postman, Docker, MongoDB Atlas, Digital Ocean

Database: PostgreSQL, MongoDB

Education

Sikkim Manipal Institute of Technology

Oct. 2020 – Oct 2024

Bachelor of Science in Computer Science

Rangpo, Sikkim