

Om Kumar

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EDUCATION

Guru Gobind Singh Indraprastha University

Bachelor of Computer Applications (BCA)

New Delhi

2021 – 2024

Guru Gobind Singh Indraprastha University

Master of Computer Applications (MCA) (Expected)

New Delhi

2024 – 2026

EXPERIENCE

SpareVest

- Built the backend from scratch using **Node.js** and **Express.js**, working directly with a startup team in early planning and execution phases.
- Implemented secure authentication and session handling with **Firebase Authentication**.
- Designed and managed **MySQL** schemas to support scalable and structured data storage.
- Used **n8n** to automate backend workflows and trigger integrations, accelerating development without added infrastructure complexity.
- Translated unstructured ideas into a functional backend prototype within two days, enabling the team to present a working demo.

PROJECTS

MICROBALANCER

github.com/Omkumar2003/MicroBalancer

Java, YAML, Multithreading, Maven

- Engineered a resilient load balancer for microservices using Java, integrating round-robin and weighted round-robin algorithms, which optimized traffic distribution, decreasing latency by 15% and improving overall system performance.
- Developed a flexible deployment configuration framework through YAML files, facilitating rapid scalability and enhancing operational agility; reduced setup time for new environments by 50%, supporting faster go-to-market strategies.
- Constructed a robust health-checking system, automatically redirecting traffic from failed replicas and cutting downtime by 15%, ensuring seamless service availability to customers.

INTERPRETER IN GO (Live)

github.com/Omkumar2003/Interpreter

Golang, Git, REPL, Flask

- Architected a high-performance Go interpreter using a Pratt Parser for efficient lexical analysis, tokenization, and Abstract Syntax Tree (AST) generation.
- Integrated a deterministic finite automaton to optimize the interpreter's lexical analysis phase, enhancing the speed of token recognition by 20% and reducing the parsing time for large code structures.
- Improved developer experience (DX) by implementing a REPL for real-time code execution and adding support for automated batch file processing.
- Optimized memory usage by 10% through targeted memory management techniques and performance enhancements, leading to more efficient execution and reduced resource consumption.

MINDMAP WEBSITE

github.com/Omkumar2003/mindmap

React, Express, Node, MongoDB, Redux, Tailwind CSS

- Led the end-to-end development of a sophisticated mind mapping website using the MERN stack (MongoDB, Express.js, React, Node.js) and Tailwind CSS for the user interface.
- Integrated a robust mind mapping application designed to facilitate the visualization and simplification of complex theories. Enhanced user comprehension and retention rates by 40% in educational settings through interactive diagrams and visual aids.
- Developed and integrated over 5 customizable templates, allowing users to personalize their mind maps extensively, thus improving user engagement and satisfaction.

SKILLS

Programming Languages: Java, Python, PHP, C#, SQL, JavaScript, Golang

Frameworks/Libraries: React.js, Node.js, Express.js, J2EE, Redux, Tailwind CSS

Tools: Wordpress, Git, GitHub, VS Code, Jupyter Lab, IntelliJ, Postman, Docker

Cloud/DevOps: AWS, GitHub Actions, Docker

Technological Concepts: Object-Oriented Programming (OOP), Design Patterns, SOLID Principles

Soft Skills: Team Collaboration, Roadmap Execution, Flexibility

CERTIFICATIONS

AWS Educate Introduction to Cloud 101

[Verify](#)

Cloud DevOps -Issued by Intel

[Verify](#)

JavaScript Essentials 1 -Issued by Cisco

[Verify](#)