Jagdeep Singh

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# Career Objective

Final-year Computer Science undergraduate with hands-on experience in building scalable backend systems and microservices. Experienced in cloud services (AWS), database management (MongoDB, SQL), and modern frameworks (Golang, Node.js). Seeking opportunities to solve complex technical challenges while contributing to impactful projects.

# Skills

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| Technical Skills   * Frontend: HTML, CSS, JavaScript, React * Backend: Node.js, Express.js, Python, Golang * Databases: MongoDB, SQL * DevOps & Cloud: AWS (ECS, S3, SQS, EventBridge, Lambda), Jenkins, Linux, Git, GitHub, Postman, Studio3T * Programming Languages: Java, Python * Tools & Monitoring: Checkmarx, DataDog * Concepts: Object-Oriented Programming, Operating Systems | Soft Skills   * Strong organizational and time management skills * Communication and interpersonal skills * Detail-oriented * Problem-solving and algorithmic thinking * Strong debugging skills * Collaboration and teamwork |

# Experience

**Backend Engineering Intern – Sequoia Consulting Group**

**April 2024 - Current**

* **Security Enhancements:** Reduced critical and medium security defects from 600 to 20 by conducting a comprehensive review of microservice security issues.
* **Code Quality Improvement:** Resolved SonarQube issues, enhancing code quality and maintainability across critical components.
* **Repository Separation:** Collaborated on separating a monolithic service into an independent microservice, improving modularity.
* **API Development:** Designed a wrapper API around the notification system, abstracting complexity and improving reusability.
* **Error Analysis:** Conducted in-depth analysis of 5xx errors, identifying root causes and implementing solutions.
* **Feature Bug Resolution:** Worked with a cross-functional team to resolve feature bugs and production issues.
* **Skills Learned:** Golang, Python, FastAPI, MongoDB, Git, GitHub, AWS

# Projects

**Video Streaming Pipeline with AWS & Node.js**

* **Built a full-stack video processing pipeline using AWS services (S3, SQS, ECS, EventBridge) and Node.js.**
* Developed a **Node.js worker** to poll SQS for S3 events and trigger ECS Fargate tasks for video processing.
* Used **FFmpeg** in Docker containers to transcode videos to HLS format with multiple resolutions.
* Stored HLS segments in **S3** and video metadata in **MongoDB**, enabling **adaptive bitrate streaming**.
* **Shared videos via unique codes** for on-demand streaming using a custom-built player with Video.js.
* **Tech Stack:** Node.js, AWS S3, ECS (Fargate), EventBridge, SQS, FFmpeg, Docker, MongoDB

**Coffee Time**

* Developed a full-stack e-commerce platform using **MongoDB, Express.js, Node.js, and React.js (MERN)**.
* Integrated **Email.js, JWT, Firebase, Multer**, and **Express Session** for enhanced functionality.
* Implemented features like cart management, voucher functionality, and admin panel for CRUD operations.

**Friends (Threads Clone)**

* Built a social media platform using **Next.js, TypeScript, MongoDB, Clerk, Tailwind**, and **UploadThing**.
* Implemented secure authentication with Clerk and enabled community creation with threaded discussions.

**Note taking app**

* Developed a browser-based note-taking app using **HTML, CSS, and JavaScript** with localStorage for persistence.
* Added functionality for marking notes as important and rendering them separately.

**Snake Game**

* Built a snake game using **React** with **useState** and **useEffect** hooks for state management.
* Integrated a high-score system and implemented smooth navigation with **React Router**.

# Education

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| * **Bachelor of Engineering, Computer Science Engineering**   Chitkara University  2021 – current  CGPA: 9.88 | * **Class 12th | CBSE**   Guru Nanak Foundation Public School  2020 – 2021  Percentage: 91.8 |

# Certifications

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| * Red Hat Application Development I: Programming in Java EE (AD183)   Red Hat Training and Certification, May 2023  Skills Acquired: Core Java Programming | * Explore Machine Learning Using Python   Infosys, February 2022  Description: Got introduced to Regression, Classification, Clustering, ANN etc. |
| * C++ by Sololearn   Sololearn, June 2022  Skills Acquired: Practical C++ | * Python for Data Science   Sololearn, July 2022  Skills Acquired: Numpy, Pandas, Matplotlib |
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