

# N K Vinay Kumar

## Software Engineer

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### SKILLS

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**Technical Skills:** Java, Python, TypeScript, Spring Boot, Django, Langchain, Artificial Intelligence, Next.js, React.js, Redux, HTML/CSS, Maven, Node.js, MATLAB, Restful APIs, Flask, CI/CD, GCP, AWS

**Tools:** Git, React Developer Tools, Android Studio, Postman, Linux

**Databases:** MySQL, MongoDB, PostgreSQL, Milvus

### EDUCATION

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#### SAN FRANCISCO STATE UNIVERSITY

Master of science, Computer Science | CGPA: 3.93/4.0

San Francisco, CA

Dec 2024

#### GURU NANAK INSTITUTE OF TECHNOLOGY

Bachelor of Technology, Computer Science & Engineering

Hyderabad, IN

July 2018 - Aug 2022

### WORK EXPERIENCE

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#### Full Stack Engineer | San Francisco State University

May 2023 – Sept 2023

- Led development of react web application prototype for generating resumes using Artificial Intelligence, addressing students' resume challenges, and consistently achieving 70+/100 scores for the generated resumes on screening tools.
- Integrated **GPT** and contributed functionalities in **Python** to automate the resume creation with minimal input, reducing manual effort by 30% and cutting student turnaround time by 55%, streamlining the job application process.
- Implemented an **NLP** framework to evaluate generated resumes, resulting 20% improvement in content quality.
- Built intuitive user interface for displaying resumes and scores using reusable React components and Tailwind CSS.
- Utilized developer tools, implemented unit tests to debug with optimal solutions, resulting in faster page load speeds.

#### Graduate Teaching Assistant | San Francisco State University

Sept 2023– Dec 2023

- Assisted students in understanding object-oriented programming, and agile practices in software engineering class.
- Taught micro-services, version control, CI/CD, and testing. Provided collaborative assistance on group projects.

### PROJECTS

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#### PREP PAL (Python, Langchain, RAG, Next.js, TypeScript, GPT, MongoDB, FAISS)

Jan 2024

- Created **RAG** chatbot using **GPT**, **Python** and **Langchain** framework, that aids users for personalized interview coaching
- Generates 98% accurate tailored answers, to interview questions, contextualized to user's resume and job description.
- Implemented web scraping techniques and leveraged **NLP** to extract interview questions and answers from career sites
- Optimized retrieval by 35% by implementing multi-stage **RAG** architecture and **MapReduce** for parallel API calls to LLM.
- Performed vector similarity search on embedded data chunks for information retrieval, reduced irrelevant context by 50% thereby decreasing the token load to the large language model and improving chatbot response time by 30%.

#### PULSE EVENTS (Java, Spring Boot, TypeScript, MongoDB, Next.js, Docker, Kubernetes, GCP)

Oct 2023

- Developed event hosting and management website using **Spring Boot**, implemented secure **JWT** authentication and authorization, engineered robust **Restful APIs** and optimized **MongoDB** queries, resulting in reduced response time.
- Engineered front-end with Next.js, leveraging reusable React components; boosted page load speed by 30% through server-side rendering and caching, while ensuring mobile responsiveness and dynamic page handling.
- Employed **Docker** and **GitHub Actions** for **CI/CD** workflows, facilitating automated deployments to **Kubernetes** cluster

#### PICTURE PERFECT (React.js, JavaScript, Django, MySQL, Jest, Docker, AWS)

May 2023

- Collaborated with a team of 5 to develop an image sharing and digital marketplace platform, following **Agile SDLC**.
- Implemented RESTful APIs in **Python**, seamlessly integrating with **Amazon RDS** and react frontend application, utilized **Amazon S3** for file storage, optimizing **MySQL** queries for data retrieval and resource utilization through indexing.
- Added image editing components into the **react** application which allows users to edit, crop, and apply filters.
- Utilized **Docker**, built CI/CD pipelines, deployed on **AWS**, demonstrating Agile software development skills.

### ACTIVITIES AND VOLUNTEERING

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- Attended 3-day workshops at Gen AI summit on building RAG applications with Amazon bedrock and Milvus Vector DB.
- Participated in SF hacks hackathon held at SFSU and volunteered at UC Berkely hackathon.
- Participated in NASA space apps challenge hackathon in 2019.