

NANDHIKANTI VINAY

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SUMMARY

Full Stack Developer with strong experience in React, TypeScript, Python, and Java Spring ecosystem. Specialized in building accessible web applications and integrating AI/ML solutions. Proven track record of optimizing application performance and implementing cloud-native solutions on AWS and GCP.

TECHNICAL SKILLS

Frontend: React.js, Next.js, TypeScript, JavaScript (ES6+), HTML5, CSS3, Redux

Backend & Databases: Java, Python, Spring Boot, Django, Flask, Node.js, REST APIs, MongoDB, PostgreSQL, MySQL, Redis

Cloud & DevOps: Amazon Web Services (AWS), Google Cloud Platform, Docker, Kubernetes

AI/ML: LangChain, Hugging Face, OpenCV, Natural Language Processing (NLP)

Testing & Tools: Jest, Git, CI/CD, Linux, Postman, IntelliJ IDEA

EXPERIENCE

Software Engineer | San Francisco State University, San Francisco, CA

May 2023 – May 2024

YouDescribeX SFSU | *React, TypeScript, MongoDB, AWS Lambda, S3*

- Engineered YouDescribeX, an application that uses **human-in-the-loop machine learning** approach for video text extraction and scene segmentation, enabling video accessibility for visually impaired users.
- Revamped core **React** components of the existing web interface, simplifying the process of adding audio descriptions, significantly improving video **accessibility** for blind and visually impaired individuals.
- Optimized architecture leveraging **AWS Lambda and S3**, for improved cost-efficiency and high availability.

Team Lead | MyCareerChamp | *React, JavaScript, Python, Flask, PostgreSQL*

- Developed an AI resume builder web application utilizing React.js and Python, serving **100+** university students.
- Architected modular frontend with **20+** reusable React components, reducing development time for new features by 60% and ensuring consistent UI/UX across the platform.
- Engineered custom **React hooks** and **Context API**, reducing global state management overhead by 35%
- Integrated **OpenAI API** and developed **Flask** REST APIs using **Python**, automating ~70% of resume writing process through language model prompt engineering.
- Engineered an **NLP**-based resume evaluation system that improved content quality by **>20%** through automated feedback and suggestions.
- Designed efficient **PostgreSQL** schemas for complex **JSON** data storage and retrieval, supporting dynamic resume customization.

Teaching Assistant | SFSU Department of Computer Science

Sept 2023 – Dec 2023

- Assisted in teaching **Java** programming concepts, **React**, **Spring Framework** fundamentals, and **design patterns**.
- Mentored **30+** students through programming assignments and group projects, providing **code reviews** and **debugging** support.

Machine Learning Intern | Ram Innovative Info tech, India

Jan 2022 - Jun 2022

- Developed a real-time Drowsiness Detection System using **OpenCV** and **Raspberry Pi**, achieving **95%** accuracy in detecting fatigue.
- Implemented an algorithm utilizing facial landmark detection to calculate eye aspect ratio (EAR), monitoring and analyzing eye closure patterns and triggering alerts when driver's eye closure exceeds a defined threshold.
- Integrated webcam, alarm, and sensors for low-light conditions, to capture live video streams and process frames, making the system a low-cost and portable system for automotive safety applications.

ACADEMIC PROJECTS

Prep Pal - AI Interview Coach | *Python, LangChain, RAG, Fast API, Pinecone*

- Developed end-to-end **RAG** pipeline using **LangChain** and **GPT** for personalized interview coaching copilot.
- Fine-tuned** OpenAI language model with training and test datasets, improving model's ability to generate structured responses.
- Implemented vector similarity search for context-aware responses, achieving 92% accuracy and relevancy.
- Optimized **RAG** pipeline with **MapReduce** for batch API requests, reducing extensive OpenAI API costs by **30%**.
- Built automated data pipeline for processing and storing vector embeddings in **Pinecone** vector database

Picture Perfect - Image Marketplace | *Python, Django, AWS (EC2, S3, RDS), Docker*

- Built Image sharing and marketplace application using **React**, **Django** and **AWS**, architecting end-to-end solution.
- Architected highly available system using **EC2** Auto Scaling and **S3** for image processing, achieving 99.9% uptime.
- Built key **React** features for image editing, content moderation, and search functionality. Wrote **Jest** test suites to ensure component reliability and optimize performance.
- Optimized API response times by redesigning **RESTful** endpoints in **Django** and implementing strategic database indexing for high-traffic queries.
- Implemented containerized deployment using Docker and **AWS ECS** for seamless scaling and maintenance.

Pulse Events - Event Management Platform | *Next.js, TypeScript, Spring Boot, MongoDB, Docker, Kubernetes*

- Designed and implemented scalable backend using **Spring Boot** and **MongoDB**, implementing secure **JWT** authentication and role-based access control using **Spring Security**
- Built **RESTful APIs** with controllers for event management, user authentication, and data handling, improving system modularity and maintainability.
- Built automated **CI/CD** pipeline using **Docker** and GitHub Actions, enabling rapid deployment on **Kubernetes**.
- Optimized API performance and reduced latency by 20% through efficient database indexing and **Redis** cache management strategies.

EDUCATION

Master’s Degree, Computer Science San Francisco State University, GPA: 3.9/4.0	Jan 2023 - Dec 2024 San Francisco, CA
Bachelor’s Degree, Computer Science Jawaharlal Nehru Technological University	Jul 2018 - Aug 2022 Hyderabad, India

CERTIFICATIONS

- AWS Certified Cloud Practitioner | **Amazon Web Services**
- Google Cloud Certification
- Meta React and React Native

LEADERSHIP

Awarded President's Leadership Fellowship for contributions to inclusive campus leadership - Led initiatives to promote diversity in student leadership and mentored incoming fellows through leadership development workshops