

# NANDHIKANTI VINAY

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## EDUCATION

**Master's Degree, Computer Science**  
San Francisco State University, GPA: 3.9/4.0  
**Bachelor's Degree, Computer Science**  
Jawaharlal Nehru Technological University

Jan 2023 - Dec 2024  
San Francisco, CA  
Jul 2018 - Aug 2022  
Hyderabad, India

## SKILLS

**Frontend:** React.js, Next.js, TypeScript, JavaScript (ES6+), HTML5, CSS3, Redux  
**Backend & Databases:** Java, Python, Spring Boot, Express.js, Django, Node.js, REST APIs, MongoDB, PostgreSQL, Redis, MySQL  
**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 (ML)** 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.

[MyCareerChamp](#) | *React, Redux, JavaScript, Python, Flask, PostgreSQL*

- Developed an AI resume builder web application utilizing React.js and Python, serving **100+** university students.
- Built **20+** reusable **React** components and custom hooks, reducing development time for new features by **60%**.
- Integrated **OpenAI API** and developed **Flask** REST APIs using **Python**, automating **~70%** of resume writing process through language model prompt engineering.
- 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 in programming assignments and group projects with **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

**Pulse Events** | *Next.js, TypeScript, Java, Spring Boot, Redis, PostgreSQL, AWS S3* | [Link](#)

- Architected and developed a full-stack event management platform using **Next.js** and **Spring Boot**, implementing JWT authentication and role-based authorization
- Engineered **RESTful APIs** with comprehensive input validation and error handling, achieving <100ms response times.
- Optimized data layer using **Spring Data JPA/Hibernate**, **PostgreSQL**, and **Redis cache**, significantly reducing API latency
- Integrated **AWS S3** for scalable media storage, architecting automated file management system capable of handling **10,000+** concurrent uploads.
- Built **CI/CD** pipeline using **Docker** and GitHub Actions for automated deployments on **Kubernetes** with 99.9% uptime.

**Prep Pal** | *Python, LangChain, RAG, Fast API, Pinecone, MongoDB* | [Link](#)

- Engineered end-to-end RAG pipeline leveraging **LangChain** and **Flask** to create a personalized AI interview coach
- Fine-tuned** OpenAI GPT-4o model with training and test datasets, improving its ability to generate structured responses.
- Built automated data pipeline for processing and storing vector embeddings efficiently in **Pinecone** vector database.
- Implemented vector similarity search with optimized data retrieval, achieving **92%** accuracy in context-aware responses.
- Optimized **RAG** pipeline with **MapReduce** for batch API processing, reducing extensive OpenAI API costs by **30%**.

**Picture Perfect Image Marketplace** | *React, Jest, Python, Django, AWS (EC2, S3, RDS), MySQL, Docker* | [Link](#)

- Built Image sharing and marketplace application using **React** and **Django** with **AWS**, achieving 99.9% uptime through **EC2** Auto Scaling and **S3** for image processing.
- Built key **React** features for image editing, content moderation, and search functionality. Wrote **Jest** test suites to ensure component reliability and optimize performance.

## CERTIFICATIONS

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

## LEADERSHIP

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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