Nandhikanti Vinay

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EDUCATION

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

SKILLS

- **Programming Languages:** Java, Python, JavaScript (ES6+), TypeScript, C++, HTML, CSS, SQL
- **Frameworks & Technologies:** React, Next.js, Redux, Spring, Hibernate, Django, Flask, Node.js, LangChain, REST APIs, MySQL, PostgreSQL, MongoDB, Redis, Jest, OpenCV, NLP, AWS, Google Cloud Platform
- **Tools & Methodologies:** Git, Object-Oriented Design, Algorithms, Problem-solving, Communication, Distributed Systems

EXPERIENCE

Software Engineer | San Francisco State University   **May 2023 - May 2024**
  YouDescribeX SFSU (React, TypeScript, MongoDB, AWS Lambda, S3)
  - Contributed to developing 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.
  Team Lead | MyCareerChamp - AI resume builder (React, JavaScript, Python, Flask, PostgreSQL)
  - Led development of MyCareerChamp, a resume builder web app with React, JavaScript, and Python, serving **100+** university students.
  - Engineered **20+** reusable React components, custom hooks, and Context API, each optimized under **10 KB** for code reusability.
  - Optimized frontend with lazy loading and code splitting, reducing **Webpack** bundle size by **~6 KB**, improving initial page load speed.
  - Developed Python methods and Flask APIs to automate resume creation process incorporating OpenAI API, reducing manual effort and turnaround time by up to **50%** through language model prompt engineering.
  - Formulated and optimized **PostgreSQL** queries and designed complex **JSON** data storage and indexing for flexible resume structures, improving data retrieval speed and supporting dynamic formatting customization.

Teaching Assistant | SFSU Department of Computer Science   **Sept 2023 - Dec 2023**
  - Delivered lectures on Object-Oriented Programming, Microservices, Cloud Services, Testing, CI/CD, and Agile practices.
  - Mentored 30+ students, provided collaborative assistance on academic group projects and conducted code reviews.

Software Engineer Intern - Machine Learning | Ram Innovative Info tech   **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 for eye aspect ratio (EAR) using Haar-Cascade classifier and PERCLOS to monitor and analyze eye closure patterns, triggering alerts when a 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 it low-cost and portable system for automotive safety applications

PROJECTS

Prep Pal | Python, LangChain, Fast API, MongoDB, Pinecone (Link)
  - Developed AI-powered copilot with GPT, **LangChain** and **Python** to assist students with personalized interview coaching.
  - **Fine-tuned** the OpenAI language model on training and test datasets, enabling **LLM** to generate tailored and structured responses.
  - Built a data pipeline to automate storage of user resumes and relevant data into **Pinecone** vector database as embeddings.
  - Employed **Cosine Similarity Search** to fetch relevant data from vector database based on user input, reducing context size to **LLM**.
  - Optimized **RAG** pipeline with **MapReduce** for asynchronous batch API requests, reducing extensive OpenAI API costs by 30%.

Pulse Events | Next.js, TypeScript, Java, Spring, MongoDB, Docker, Kubernetes, GCP (Link)
  - Developed a scalable event hosting and management platform using **Next.js**, **Java, Spring Boot**, and **MongoDB**, enhancing security with **JWT** authentication and role-based authorization.
  - Developed and optimized modular server-side **React** components to improve initial load times by **20%**, utilizing server-side rendering **(SSR)** and Cloud **CDN** to render dynamic content efficiently while reducing client-side processing.
  - Designed and implemented **MVC** architecture and **RESTful APIs** to improve backend modularity, maintainability, and performance.
  - Employed **Docker** and GitHub Actions for **CI/CD** workflows, streamlining automatic deployments to Google Kubernetes Engine.

Picture Perfect | React.js, JavaScript, Django, MySQL, Jest, Docker, AWS, Figma (Link)
  - **Led** a cross-functional **team of 5** to develop an image sharing and digital marketplace web app following end-to-end **Agile SDLC**.
  - Built and improved core features of **React** application, including image editing, image moderation, and search functionality. Conducted unit tests with **Jest** for debugging and ensuring functionalities.
  - Optimized performance by lazy loading images and implementing React hooks to manage state and side effects efficiently.
  - Collaborated in designing and developing Django **RESTful API** endpoints with Python and optimized **MySQL** queries to expedite the retrieval and processing of data on the server side, enhancing website performance.
  - Architected and deployed a highly available infrastructure on AWS using **EC2**, **S3**, and **RDS,** ensuring 99.9% uptime and scalability.

LEADERSHIP & VOLUNTEER EXPERIENCE

President's Leadership Fellow: Promoted inclusive leadership by encouraging fellows to engage in development activities and mentoring.