Nandhikanti Vinay Kumar

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EDUCATION

San Francisco State University, San Francisco **GPA: 3.95/4.0**
Master's Degree, Computer Science Expected May 2025
Coursework: **Artificial Intelligence**, Pattern Matching and **Machine Intelligence**, Analysis of Algorithms, **Software Engineering**

Jawaharlal Nehru Technological University, Hyderabad
Bachelor's Degree, Computer Science and Engineering Jul 2018 – Aug 2022
Coursework: **Machine Learning, Object Oriented Programming,** Database Systems**, Linear Algebra, Discrete Mathematics**

TECHNICAL SKILLS

AI and ML**: TensorFlow,** NumPy, Pandas, Scikit-learn, **LangChain, GPT, RAG,** OpenCV, **NLP** (NLTK, SpaCy), Matplotlib
Languages**: Java, Python, JavaScript, TypeScript**, C++, C, **MATLAB,** HTML, CSS
Frameworks**: React.js, Express.js, Node.js, Flask, Django, Spring Boot, FastAPI**
Databases**: MySQL, PostgreSQL, MongoDB,** Redis, **Pinecone**, Milvus
Cloud**: AWS** (SageMaker, Bedrock, Comprehend, Textract, Polly, Transcribe), GCP, Docker

EXPERIENCE

Software Engineer, **San Francisco State University** [React.js, Python, GPT, Flask, PostgreSQL] May 2023 – May 2024

- Developed a **Generative AI tool** with **React.js, Flask**, and **GPT,** for creating resumes, automating **70%** of the resume creation process with language model **(LLM)** prompt engineering.
- Devised an **NLP-based evaluation system**, boosting resume scores by over **20%** with automated feedback and suggestions.
- Improved **data retrieval by 40%** by optimizing **PostgreSQL** schemas for **JSON** storage, enabling dynamic resume customization.
- Enhanced user experience by developing **20+** reusable **React** components, delivering consistent **UI/UX** and functionality.

Teaching Assistant, SFSU Department of Computer Science Sept 2023 – Dec 2023

- **Mentored 30+ students** in programming fundamentals, **Object-Oriented Programming (OOP)**, and **Microservices,** fostering critical problem-solving skills and improving their coding proficiency in **Java**.
- Conducted **code reviews** and provided **debugging** support on group projects, **leading to a 35%** improvement in grades.

Machine Learning Intern, Ram Innovative Infotech Jan 2022 – Jun 2022

- Developed a **Computer Vision** system for **Drowsiness Detection** using **Haar Classifiers**, **OpenCV,** achieving **95% accuracy**.
- Implemented a **facial landmark detection** algorithm to calculate **eye aspect ratio (EAR),** monitoring and analyzing eye closure patterns and triggering alerts for prolonged closures.
- **Integrated webcam** and **sensors** to process video streams, **cutting costs by 40%** for a portable automotive safety system.

ACADEMIC PROJECTS

SF Neighborhoods Crime Analysis | [NumPy, Pandas, Scikit-learn, Matplotlib, Plotly, Altair]

- Developed an interactive data visualization dashboard, **analyzing 850,000+** San Francisco crime incidents (2018-2024), enabling **30%** more efficient law enforcement resource allocation
- Created **10+** dynamic visualizations including geospatial mapping of **10** police districts, revealing **60%** of crimes in 3 key areas
- Implemented a **robust ETL pipeline** using **NumPy** and **Pandas,** processing **1M+ data points** and **reducing 30+ dimensions**

Prep Pal – Copilot| [Python, LangChain, Flask, NLP, GPT, Pinecone, MongoDB] | Link

- Built an **AI Copilot** for interview preparation using **LangChain**, **Flask,** and **GPT** achieving **92%** accuracy in personalized responses
- **Fine-tuned** Large Language Model **(LLM)** using dataset of **1000+** interviews scenarios, enhancing its ability to generate structured responses to user's inputs and **reducing hallucination by 75%**
- Optimized **RAG** architecture with **Batch API** and **MapReduce chain**, reducing extensive **OpenAI API** costs by **30%**
- Achieved **30%** faster query performance by implementing a **robust data pipeline** to store and process **vector embeddings**

Prayan – AI Travel Planner| [React Native, Expo, Gemini API, GCP] | Link

- Developed **AI travel planner** mobile application using **React Native, Gemini API** for generating personalized itineraries
- Built scalable backend infrastructure using **GCP** to handle **concurrent LLM requests** and **optimize API costs.**
- Integrated location-based services with **Google Places API** for contextual travel recommendations and real-time search.

Pulse Events | [React, TypeScript, Java, Spring Boot, Redis, PostgreSQL, AWS] | Link

- Architected an event management platform with **React** and **Spring Boot,** following **MVC** design pattern and **OOPs** principles.
- Built **REST APIs** using **Spring Boot** with error handling, achieving **<100ms** response times and enhancing user experience.
- Developed scalable data access layers integrating **Hibernate ORM** with **PostgreSQL**, boosting data retrieval efficiency by **30%**.

CERTIFICATIONS & LEADERSHIP

- **AWS Certified Cloud Practitioner** | **Amazon Web Services**
- Awarded President's Leadership Certificate for fostering diversity in campus leadership and mentoring future fellows
- Volunteer facilitator for GenAI workshops on **AWS SageMaker** and **Bedrock** at **AWS Community Day 2024, Bay Area**
- Attended **AWS Workshop** at GenAI Summit 2024, learning to **build Generative AI applications** with **AWS Bedrock and Claude**.