

Nandhi Kanti Vinay Kumar

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EDUCATION

San Francisco State University, San Francisco

GPA: 3.95/4.0

Master of Science, Computer Science

May 2025

Coursework: Analysis of Algorithms, **Advanced Computer Networks**, Software Engineering, Artificial Intelligence, Database Management Systems, Pattern Matching and Machine Intelligence

Jawaharlal Nehru Technological University, Hyderabad

Bachelor of Technology, Computer Science and Engineering

Jul 2018 – Aug 2022

Coursework: Data Structures, Java Programming, **Operating Systems, Distributed Databases**, Python, Cloud Computing

TECHNICAL SKILLS

Software Development: Java, Python, JavaScript, C++, HTML, CSS, YAML/JSON

Frameworks: Spring Boot, Hibernate, Django, React, Next.js, JUnit, Jest

Infrastructure and Cloud: AWS (EC2, S3, VPC, ECS, IAM, Lambda, CloudFormation), Docker, Kubernetes, Microservices Architecture, Load Balancing, TCP/IP, Security Groups, CDN, DNS

Databases: SQL (MySQL, PostgreSQL), NoSQL (MongoDB, DynamoDB), Caching (Redis, Elasticache)

DevOps & Monitoring: Git, AWS CloudWatch, CI/CD, Linux Kernel Internals, Observability tools, Performance profiling (Linux Perf), Postman

EXPERIENCE

Software Engineer, San Francisco State University [React, Python, Flask, PostgreSQL, OpenAI API]

May 2023 – May 2024

- Developed an **AI resume builder** with **React.js, Flask, and OpenAI API**, automating **70%** of the resume creation process
- Enhanced user experience by developing **20+** reusable **React components**, delivering **consistent UI/UX** and functionality.
- 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.

Teaching Assistant, SFSU Department of Computer Science

Sept 2023 – Dec 2023

- Mentored **30+ students** in programming fundamentals, **Object-oriented design (OOPs)**, 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.

Software Developer, Zenbyt [React, Redux, Node.js, Express, Redis, PostgreSQL, Sequelize, AWS]

Jan 2022 – Dec 2022

- Migrated a legacy **PHP** monolithic application to a modern stack using **React, Node.js, and Express**, cutting technical debt and boosting user retention by **25%**.
- Built scalable **RESTful APIs** with **Redis caching** to handle high traffic (100K+ daily requests) at sub-100ms latency, ensuring **reliability at scale**.
- Redesigned database models using **Sequelize ORM** for **PostgreSQL** in a **SaaS** platform, improving query efficiency and **performance** by up to ~40%.
- Implemented responsive frontend with React.js & Redux, achieving faster page loads (~45%) & higher engagement (~30%).
- Automated infrastructure provisioning and deployment processes using **AWS services** (EC2, S3, RDS) and **Linux**, improving system **reliability, scalability, and Performance**.

ACADEMIC PROJECTS

Prep Pal | [Python, LangChain, Flask, Pinecone, MongoDB] | [Link](#)

- Built an **AI Copilot** for interview preparation using **LangChain**, and **Flask**, achieving **92% accuracy** in personalized responses
- Optimized **RAG** pipeline throughput with **MapReduce** technique for batch API calls, reducing extensive OpenAI API costs by **30%**.
- Scheduled web scraping jobs and leveraged **NLP** to extract and structure interview data from various career websites.
- Built a fault-tolerant data pipeline for processing and storing vector embeddings in Pinecone vector database.
- Fine-tuned LLM** using dataset of **1000+ interviews scenarios**, enhancing its ability to generate structured responses to user's inputs and reducing hallucination by **75%**.

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

- Implemented a fault-tolerant **ETL pipeline** using **NumPy** and **Pandas**, processing **1M+ data points** and reducing **30+ dimensions**
- Devised 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

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

- Architected an **event management** platform using **React, Java, and Spring Boot**, implementing **JWT** authentication and role-based authorization with **Spring Security**.
- Built **REST APIs** using **Spring Boot** with error handling, achieving <100ms response times and enhancing **user experience**.
- Optimized data layer for scalability by integrating **Spring Data JPA/Hibernate ORM** with **PostgreSQL**, boosting data retrieval efficiency by **30%** and significantly reducing API latency.
- Integrated **AWS S3** for scalable media storage, architecting automated **file system** capable of handling **10,000+ concurrent uploads**.
- Constructed **CI/CD pipeline** using **Docker** and **GitHub Actions** for auto deployments on **Kubernetes** cluster with **99.9% uptime**.

Picture Perfect | [React, Django, Jest, Python, AWS, MySQL, JavaScript] | [Link](#)

- Built an Image sharing and marketplace application using **React** and **Django** with **AWS (EC2, S3, RDS)**, achieving **99.9% uptime** through **EC2 Auto Scaling**
- Established key **React** features for image editing, **content moderation**, and **search** functionality. Wrote **Jest** test suites to ensure component **reliability** and optimized **performance**.
- Utilized **Docker** for containerization, built **CI/CD** pipelines for automatic deployments on AWS EC2 instance. Demonstrated **Agile** project management proficiency, and innovative integration of technologies.
- Lead team and delegated tasks to team members while providing guidance, ensured timely completion of the project through weekly **SCRUM** meetings.

Cloud Computing | AWS

- Played around AWS services and gained hands-on experience designing and deploying scalable applications using **AWS core services (EC2, Auto Scaling, ELB, RDS)**, achieving **99.9% uptime** for high-traffic workloads.
- Secured cloud infrastructure with **IAM policies**, designing **VPC** architecture with **public/private subnets, NACLs, and security groups**, blocking unauthorized access attempts.
- Built serverless architectures with AWS Lambda, integrating SQS and SNS for event-driven processing, reducing latency by 40%.
- Automated infrastructure provisioning using **AWS CloudFormation**, enabling consistent environments across 3 regions and reducing deployment errors by 25%.

CERTIFICATIONS & LEADERSHIP

- **Amazon Web Services** Certified Cloud Practitioner
- Awarded President's Leadership Certificate for fostering diversity in campus leadership and mentoring future fellows