

Neel Asheshbhai Shah

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Education

Master of Science in Software Engineering

San Jose State University

Coursework

Enterprise Distributed Systems, Enterprise Software Platforms, Data Mining

Aug. 2024 – May 2026

San Jose, CA

Bachelor of Technology in Computer Science

Nirma University

Coursework

Data Structures and Algorithms, Database Management Systems, Operating Systems, Object Oriented Programming, Machine Learning, Data Analytics, Information Retrieval System, Machine learning, Deep Learning, Data Mining, computer architecture, Big Data Analytics

Oct. 2020 – June 2024

Ahmedabad, India

Technical Skills

Programming:

Python, JavaScript, TypeScript, C, C++, Java

Web Technologies:

ReactJS, Redux, Express.js, Node.js, Flask, Django, MongoDB, SQL, MySQL, CSS

DevOps & Virtualization:

AWS, GCP, Terraform, Docker, Jenkins, Kubernetes

Version Control & OS:

Git, GitHub, Linux, Unix Command Line

AI/ML Skills:

Computer Vision, Natural Language Processing, Large Language Models, Data Analysis
Deep Neural Networks, Retrieval Augmented Generation, Vision Transformer

AI/ML Libraries:

Tensorflow, Langchain, Numpy, PyTorch, Keras, PySpark

Experience

Software Engineering Intern - DevOps | Crest Data — Ahmedabad, India

June 2023 – Aug 2023

- Deployed and managed scalable cloud-based applications using AWS, Docker, Terraform, and Kubernetes, achieving 99.9% uptime and improving scalability.
- Automated the provisioning of 50+ cloud resources using Terraform, decreasing deployment time and cutting configuration errors by 30%, as validated by Jenkins logs over a 3-month period.
- Created Docker images for 5 key applications and deployed them on Amazon ECS which can support 1,000+ daily active users with seamless scalability.
- Implemented CI/CD pipelines using Jenkins, reducing build and deployment time from 2 hours to 1.2 hours. Increased deployment reliability as shown by a drop in failed deployments in Jenkins error logs.

Software Engineering Intern - Front-end | Grinders — Ahmedabad, India

May 2022 – Aug 2022

- Collaborated with a team to design and develop user-friendly and responsive front-end interfaces for 6+ deep learning web applications using ReactJS.
- Built 15+ UI components for displaying analysis diagrams, graphs, and charts for deep learning models to support real-time data visualization.
- Created 10+ interactive user input forms and real-time output display components for deep learning models, improving data visualization.
- Developed landing pages, contributor cards, and tech stack cards to enhance overall user engagement and platform accessibility, contributing to smoother user experience.

Projects

Collaborative Cloud IDE (Link) | MERN stack, Docker, Kubernetes, AWS, GCP

Sep 2024 – Present

- Implemented a scalable collaborative online coding platform supporting up to 100 concurrent users, similar to Replit, enabling real-time code sharing, and collaboration.
- Provisioned dedicated pods for each user to ensure an isolated development environment and utilized Kubernetes ingress controllers to dynamically route user-specific requests to corresponding pods.
- Enabled real-time project collaboration by connecting frontend and backend services through WebSocket communication, enabling multiple users to edit and execute code simultaneously.
- Designed and deployed individual microservices for authentication, resource provisioning, and coding interface on AWS ECS for ensuring a 99.99% uptime and scalability.

DocGPT: A Medical Chatbot (Link) | Langchain, LangGraph, Pinecone, Flask, ReactJS

Jan 2024 – March 2024

- Built a full-stack, industry-standard chatbot that addresses complex queries on medical conditions and treatments using a multi-agent Retrieval-Augmented Generation (RAG) architecture with LangGraph, which dynamically selects indexes based on query types.
- Optimized document retrieval by implementing a targeted multi-indexing system that directs image-related queries to an image-specific index, ensuring faster and more accurate responses tailored to the type of medical data requested.
- Incorporated ColPali to index pages with medical data embedded in images, enabling the chatbot to handle both text-based and image-related medical queries.
- Developed an intuitive ReactJS-based UI where user can chat with the bot, see previous chats, navigate between conversations, and even add their documents.

Extracurricular activities

Computer Society of India, Nirma University | Executive Member

Jan 2021 — Jan 2024

- Helped the club in conducting 10+ events with 500+ participants, fostering a collaborative learning environment.
- Mentored 70+ students, significantly enhancing their performance in competitive coding on platforms like Codeforces, with many achieving improved rankings and solving more problems effectively.