

Anup Sanjeev Patel

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Education

University of Illinois at Urbana-Champaign

May 2022

Mathematics & Computer Science

3.7/4.0

Experiences

Global Mobility Services

September 2023 – Present

Technical Consultant

Chicago, IL

- Set up and managed private cloud infrastructures using AWS which include VPC, EC2, S3, Cloud Front, EFS, RDS, Direct Connect, Route53, Cloud Watch, Cloud Trail, Cloud Formation and IAM.
- Led the migration of enterprise applications to scalable cloud environments, ensuring seamless transition and minimal downtime.
- Utilized Terraform for infrastructure as code (IaC) deployment, utilizing features such as execution plans, resource graphs, and change automation to drive efficient cloud infrastructure management, reducing manual intervention and improving deployment times.
- Led the front-end and back-end development of web applications, ensuring responsive design and optimal server-side performance.
- Provided a graphical user interface for client that allows users to manage and deploy Terraform configurations to multiple clouds (AWS, Azure, GCP) from a single platform.
- Developed a Google Extension for a dental organization to automate filling insurance claim forms, speeding up the process by over 90%.
- Administered AWS DNS settings via Route53, ensuring optimal domain name system management and network traffic routing.
- Worked closely with stakeholders to translate business requirements into solutions that enhance user satisfaction.

TuSimple

August 2022 – August 2023

Software Engineer - DevOps

Tucson, AZ

- Developer for vehicle infrastructure, system operations, and autonomous deployment teams, responsible for high utilization of resources through the maintenance of the robotics operating system, CI/CD pipelines, and docker container orchestration software.
- Implemented industry best practices and tools to maintain CI/CD pipelines for multiple projects, implementing continuous integration, automated testing, and deployment strategies to optimize project workflows and ensure production quality.
- Ensured minimal downtime and successful implementation for fleet software deployments from testing to rollout, utilizing Docker and Docker Registry to store and distribute docker images.
- Reduced the time to validate an autonomous truck by over 90% by developing the vehicle validation pipeline, a continuous integration pipeline used to validate newly upfitted trucks for production, utilizing Jenkins, Cypress, JS, and Python.
- Improved asset observability and configuration management across the organization by developing an internal infrastructure management web application used to track the vehicles for hardware/software configuration and schedule updates for the fleet.
- Improved maintainability and scalability of infrastructure management of our fleet by developing IaaS templates, provisioning on Linux machines, and deploying features using Ansible and Ansible Tower.
- Increased the observability of current issues by leading weekly meetings to review root cause analysis and triage complex network/system issues reported by the autonomous vehicle help desk (AVHD).
- Collaborated with test engineers and QA teams to provide in-depth documentation, investigate and create bug reports, provide relevant data to remote teams, and coordinate hotfixes for current issues.
- Improved workflow efficiency by developing Python and Bash scripts to create a toolset for common and current issues faced by AVHD.
- Communicated service level objectives with 50+ internal stakeholders, directors, PMs, developers, QAs, electrical engineers, and other technologists across the company.

Codakid

April 2021 – April 2022

Programming Instructor

Scottsdale, AZ

- Mentored and led over 30 young adults(ages 9-16) on real projects to develop their interest in programming.
- Adapted teaching methods based on each student to drive interest, effectively transfer knowledge, and motivate them through the courses.
- Developed supplemental courses introducing data structures and algorithmic programming questions for advanced students to learn OOP.
- Led students through one-on-one game development courses utilizing Python, Java, Lua through a remote environment during the height of COVID.
- Courses progressed through learning with Scratch by MIT, PyGame development, Lua coding in Roblox Studio, creating mods with Java in Minecraft and 3D game development with Unreal Engine.

Projects

Trauma Chatbot App | React Native, Next.js, Node.js, Google Cloud Platform

- Built a full-scale application in React Native for users to have their own chatbot to discuss issues related to physical and emotional trauma.
- Created an API server to handle user chat history and direct prompts to a prompt engineered Gemini language model.
- Utilized GCP offerings including Firebase and Firestore to store sensitive user information and user credentials

MNIST Nets | Pytorch, Python

- Designed and implemented Variational Auto-Encoder and Generative Adversarial Network models trained on the MNIST dataset.
- The VAE learned to encode and decode handwritten digit images, while the GAN learned to generate new handwritten digit images.

Personal Voice Generator | JS, HTML, CSS, Node.js

- Utilized the Replicate API along with the ‘tortoise-tts’ model to build an interface to clone a user’s voice and generate speech from text.

Insurance Form Filler | JScript, HTML, Google Extension

- Built a Google Extension to automate filling insurance claim forms for a dental organization, speeding up the process by over 90%.

Hospital Bed Availability | Java, Python, SQL, GCP

- Created an application using Android Studio, a GCP hosted MYSQL database, and Python, to propose a solution that increased efficiency and observability of hospital resources.

Ticket Finder Bot | Python, Selenium, Azure VM

- Created a Discord Bot to scan for specific tickets offered online, and once a desired ticket was found sends the reserved ticket URL to a Discord server for the user to receive.

Skills

Python (Pytorch, SymPy, Pandas, Keras, TensorFlow, SciPy, PyTest, Jupyter Notebooks), Front End Development, Java, Javascript, React.js, React Native, Node.js, Express.js, Angular.js, Next.js, Backend Development, C/C++, SQL, NOSQL, PostgreSQL, Cloud Computing (Amazon AWS, Microsoft Azure, Google Cloud GCP), Jfrog, Artifactory, Docker, Kubernetes/K8s, Prometheus, Git, Jenkins, Cypress, Selenium, Ansible, CFEngine, Puppet, Terraform, Unix/Linux, Windows, Jira