

Anup Sanjeev Patel

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Education

University of Illinois at Urbana-Champaign

May 2022

Applied Mathematics Major with Computer Science Minor

Summary

Capable and adaptable software engineer with professional experience with DevOps and the Agile development methodology. Experience in working with product development for startups and collaborating with multiple geographic teams to develop and deliver end to end software solutions.

Experiences

TuSimple

August 2022 – Present

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.
- Spearhead for fleet software deployments from testing to rollout, ensuring minimal downtime and successful implementation utilizing Docker and Docker Registry to store and distribute docker images.
- 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.
- 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.
- 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 were ready for production, utilizing Jenkins, Cypress, JS, and Python.
- Improved asset observability by developing an internal infrastructure management web application used to track the fleet’s software and hardware configurations and to track tickets for each vehicle.
- Researched methods of implementing new technologies to streamline company processes, including the adoption of a drivepack in the vehicle system, using a software RAID array, to reduce the data offload time to the cloud by over 5x.
- Responsible for infrastructure management of our fleet with a strong focus on maintainability and scalability by developing IaaS templates, provisioning on Linux machines, and deploying features using Ansible and Ansible Tower.
- Led weekly meetings to review root cause analysis and triage complex network, system issues reported by the autonomous vehicle help desk.
- Developed Python and Bash scripts to improve workflow efficiency and create a toolset for common 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.
- Developed supplemental courses introducing data structures and algorithmic programming questions.
- Taught game development courses utilizing Python, Java, Lua through a remote environment.
- Courses included PyGame development, Roblox Studio, and 3D game development with Unreal Engine.

Projects

Personal Voice Generator | Node, JS, HTML, CSS

- Created a webpage using the Replicate API along with the ‘tortoise-tts’ model to record and clone a user’s voice and use this voice to generate personal speech from text.

Hospital Bed Availability | Java, Python, SQL, GCP

- Created an application using Android Studio, a GCP hosted MYSQL database, and Python, to increase efficiency of hospital resource management.

Ticket Finder Bot | Python, Selenium, Azure VM

- Created a Discord Bot hosted on an Azure virtual machine that searched for tickets under a custom criteria every few seconds, and once a desired ticket was found sends the reserved ticket URL to a Discord server.

Crypto and Stock Price Prediction | Python, Pytorch

- Developed a Python script to compile all time historical data for 500 stocks and cryptocurrencies to store into PostgreSQL database.
- Designed and Implemented a convolutional neural network using images of a stock’s price graph to classify stock as either “buy” or “sell”.

Android Running App | Java

- Built an application for runners in Android Studio that integrated Google Maps API to track a runner’s path and provide detailed running statistics to the user.

Skills

Python (Pytorch, SymPy, Pandas, Keras, TensorFlow, SciPy, PyTest, Jupyter Notebooks), Java, Javascript, React.js, Node.js, Express.js, Angular.js, C/C++, SQL, NOSQL, PostgreSQL, Amazon AWS, Microsoft Azure, Google Cloud GCP, Jfrog, Artifactory, Docker, Kubernetes, Prometheus, Rancher, Git, Jenkins, Cypress, Selenium, Ansible, CFEngine, Puppet, Terraform, Ubuntu, Jira

Certificates

AWS Certified DevOps Engineer, LFCS, Associate in Python Programming (Python Institute)