Divy Patel

Portfolio Website | *LinkedIn* | *Github* | *divypatel.612@gmail.com* | (480)-559-1902

Education

Arizona State University (ASU), Tempe, AZ — Aug. 2022 – Dec. 2023
Master of Science in Computer Science (MSCS) (GPA: 3.55/4)

Pandit Deendayal Energy University (PDEU), India — Apr. 2018 - May 2022
B.Tech in Information and Communication Technology (GPA: 9.22/10)

Technical Knowledge

Programming Languages: Python, R, SQL (MySQL, PortgresSQL), GraphQL
Frameworks: RESTful APIs , Django, TensorFlow, PyTorch, OpenCV, Scikit-learn, LangChain
Tool and Technologies: Amazon Web Services (AWS), Docker

Work Experience

GlobalLogic, Dallas, Texas — **Software *Engineer*** — Oct. 2024 – Present
- Developed REST APIs for Django & Python based middleware enabling external control of TV OS components across mobile apps, consoles, and smart devices.
- Integrated new Hardware Abstraction Layer (HAL) into existing Python based Django middleware removing vendor-specific dependencies and enabling us to use same APIs across all the chipsets **reducing maintenance overhead for 3 kinds of chipsets**.
- Consolidated five middleware (in Python & Django) release branches into a unified workflow while coordination with external plugin teams, **reducing developer bug-fix effort by 5 folds**.
- Developed an automated defect tracking system using Python, FAST API & JIRA API integration to improve reporting efficiency and **save my manager's 6 hrs./week**.
- Diagnosed & resolved cross-component issues across OS middleware and device communication layers to support production releases.
- Contributed to automated integration test framework using behave (BDD) and python, validating system-level interactions across middleware and other OS components to test HAL changes and catch any bugs introduced early in the process.

Arizona State University, Tempe, Arizona — ***Engineer*** — Jul. 2024 – Dec. 2024
- Configured and maintained Linux servers supporting web, database, and machine learning workloads.
- Evaluated infrastructure requirements and recommended hardware solutions to improve performance and cost efficiency.
- Contributed to development of an LLM-based system using LangChain and Python, generating daily creative tasks for artists based on long-term goals with **93% accuracy**.

Arizona State University, Glendale, Arizona — ***Research Technician*** — Apr. 2024 – Oct. 2024
- Developed Python scripts using Pandas to analyze genome data for diversity and mutations across captive rhesus macaque(monkey species) colony under the supervision of Dr. Sreethran Kanthaswamy.

Quartic.ai, Remote — ***Data Engineer*** — Jul. 2021 - Jun. 2022
- Implemented data pipelines for real-time industrial data processing using Python, GraphQL, and Redis with CI/CD integration.
- Optimized data processing workflows to support predictive analytics and real-time risk monitoring.
- Developed monitoring dashboards using Grafana and ReactJS to visualize live operational data.

HOPS Healthcare, India — ***Artificial Intelligence Intern*** — Apr. 2021 - Dec. 2021
- Built ensemble skin disease classification model combining CNN and traditional ML, achieving **85% accuracy** on smartphone images.
- Developed end-to-end pipeline to preprocess, clean, and augment images, automatically retraining the model as data diversity grows.
- Built a **noise-reduction pipeline for digital stethoscope recordings**, improving signal clarity for heart condition detection models.
- Implemented **mobile-compatible ML inference workflows**, enabling real-time analysis of patient images.

Projects

LLM for Document Based Question Answering — ***Project***
- Developed Large Language Model (LLM) using RAG implementation to interpret PDFs, CSV, and JSON files, with **98%** accuracy.
- Used LangChain for efficient storage and retrieval, ensuring accurate responses by implementing Prompt Engineering.
- Enhanced chat automation processes by testing model performance on diverse and complex queries.

Node Classification in Graph Networks Using GNNs — ***ASU***
- Developed and optimized Graph Neural Network models (GCN, GAT, GraphSAGE) achieving accuracy of **90.16%** on the Cora dataset.
- Implemented and tested advanced techniques like attention mechanisms and scalable embeddings to improve classification accuracy.
- Collaborated in a team to analyze results and present findings, highlighting GNN applications in real-world scenarios.

Smart Campus Human Detection — ***Project***
- Annotated a dataset used for a smart campus project involving human detection with a 3D LiDAR camera.
- Developed and tested a Neural Network AI model using 2D and 3D CNNs to detect human presence, achieving **98%** accuracy.
- Contributed to the development of a smart campus solution aimed at monitoring and managing crowd density in campus areas.

Recent Achievements

- Developed genome analysis scripts for rhesus macaque genetics; published in *American Journal of Primatology* (link) — Jun. 2024
- Publication in "MaterialsToday: Proceedings" on "Artificial Intelligence powered Material Search Engine" (link) — Apr. 2022